Commonwealth of Kentucky
Environmental and Public Protection Cabinet
Department for Environmental Protection
Division for Air Quality
803 Schenkel Lane
Frankfort, Kentucky 40601
(502) 573-3382

Proposed

AIR QUALITY PERMIT

Issued under 401 KAR 52:020

Permittee Name:	**ISP Chemicals, LLC**
Mailing Address:	**P.O. Box 37, Calvert City, KY 42029**
Source Name:	**ISP Chemicals, LLC**
Mailing Address:	**P.O. Box 37** **Calvert City, KY 42029**
Source Location:	**Highway 95, Calvert City, KY**
Permit ID:	**V-06-052**
Agency Interest #:	**2939**
Activity ID:	**APE20060003**
Review Type:	**Title V / Synthetic Minor, Construction / Operating**
Source ID:	**21-157-00003**
Regional Office:	**Paducah Regional Office** **130 Eagle Nest Drive** **Paducah, KY 42003** **(270) 898-8468**
County:	**Marshall**
Application Complete Date:	**May 2, 2007**
Issuance Date:	**October 27, 2007**
Revision Date:	
Expiration Date:	**October 27, 2012**

John S. Lyons, Director
Division for Air Quality

Revised 09/29/06

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	Permit type	Log or Activity#	Complete Date	Issuance Date	Summary of Action
V-99-038 R1	**TV/SM**	**50140**	**February 18, 1997**	**April 12, 2002**	**Initial - Construction Permit**
V-06-052	**Renewal**	**APE20060003**	**May 2, 2007**	**October 27, 2007**	**Permit Renewal**

SECTION A – PERMIT AUTHORIZATION

Pursuant to a duly submitted application the Kentucky Division for Air Quality hereby authorizes the operation of the equipment described herein in accordance with the terms and conditions of this permit. This permit has been issued under the provisions of Kentucky Revised Statutes Chapter 224 and regulations promulgated pursuant thereto.

The permittee shall not construct, reconstruct, or modify any affected facilities without first submitting a complete application and receiving a permit for the planned activity from the permitting authority, except as provided in this permit or in 401 KAR 52:020, Title V Permits.

Issuance of this permit does not relieve the permittee from the responsibility of obtaining any other permits, licenses, or approvals required by this Cabinet or any other federal, state, or local agency.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

GAMMA-BUTYROLACTONE (BLO) PROCESS UNIT (Emission Units BL1 and BL2)

Major Process Equipment used in BLO Production

Equipment ID	Description	Date Commenced
211/3411	Ammonia column (common with pyrrolidones unit)	1960
211/3415	Residue tower (common with pyrrolidones unit)	1981
224/3302	Reactor	1960
224/3401	Lights tower (common with pyrrolidones unit)	1960
224/3402	Final tower (common with pyrrolidones unit)	1960
225/3301	Reactor	1964
225/3401	Lights tower (common with pyrrolidones unit)	1965
225/3402	Final tower (common with pyrrolidones unit)	1965

The above list is larger process equipment, not an inclusive list of equipment. Many smaller pieces of equipment are within the process unit such as charge pots, coolers, receivers, seal pots, condensers, etc.

BL1 GAMMA-BUTYROLACTONE (BLO) PROCESS VENTS

01 **BLO Process Vent Emissions**
Controls: None

02 **BLO Process Vent Emissions**
Controls: Wickes Boiler 115/5304, E Paracymene Heater 115/5306, or W Paracymene Heater 126/5301
(Emissions accounted for at boiler and heater emission units)

BL2 GAMMA-BUTYROLACTONE (BLO) FUGITIVE EMISSIONS

01 **BLO Fugitive VOC**
Controls: None

APPLICABLE REGULATIONS:
None

NON-APPLICABLE REGULATIONS:
401 KAR 63:002, incorporating by reference 40 CFR 63 Subparts F, G, and H. 40 CFR 63.100(b)(2) - The chemical manufacturing process unit(s) are not subject to 40 CFR 63 Subparts F, G, or H since the unit(s) do not use as a reactant or manufacture as a product, or co-product an organic HAP listed in Table 2 of Subpart F.

NON-APPLICABLE REGULATIONS (Continued):

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

GAMMA-BUTYROLACTONE (BLO) PROCESS UNIT (Emission Units BL1 and BL2)

401 KAR 63:002, incorporating by reference 40 CFR 63 Subpart FFFF. 40 CFR 63.2435(b)(2) -Process unit(s) do not process, use, or generate any of the organic HAP listed in Section 112(b) of the CAA or hydrogen halide and halogen HAP.

401 KAR 60:005, incorporating by reference 40 CFR 60 Subpart VV. Equipment in the process unit(s) are not an affected facility under Subpart VV since the process unit(s) do not produce, as an intermediate or final product, a chemical listed in 40 CFR 60.489.

401 KAR 60:005, incorporating by reference 40 CFR 60 Subpart NNN. Distillation units are not an affected facility under Subpart NNN since the process unit(s) do not produce, as a product, co-product, by-product, or intermediate a chemical listed in 40 CFR 60.667.

401 KAR 60:005, incorporating by reference 40 CFR 60 Subpart RRR. Reactors are not an affected facility under Subpart RRR since the process unit(s) do not produce, as a product, co-product, by-product, or intermediate a chemical listed in 40 CFR 60.707.

1. **Operating Limitations:**
   None

2. **Emission Limitations**:
   None

3. **Testing Requirements:**
   None

4. **Specific Monitoring Requirements:**
   None

5. **Specific Recordkeeping Requirements:**
   Pursuant to 40 CFR 63 Subpart F, Sections 63.100(c) and 63.103(e), the permittee shall record and retain information, data, and analyses used to determine that the chemical manufacturing process unit does not use as a reactant or manufacture as a product or co-product any organic hazardous air pollutant listed in Table 2 of Subpart F.

6. **Specific Reporting Requirements:**
   None

7. **Specific Control Equipment Operating Conditions:**
   None

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

PYRROLIDONES UNIT (Emission Units PY1 and PY2)

Major Process Equipment

Equipment ID	Description	Date Commenced
211/3303	Reactor	1955
211/3305	Reactor	1992
211/3411	Ammonia column (common with BLO unit)	1960
211/3415	Residue tower (common with BLO unit)	1981
211/--	Tank wagon loading	--
222/3002	Process tank (2,300 gal capacity)	1960
222/3302	Reactor	1986
222/3401	Ammonia Tower	1960
222/3402	Residue Tower	1960
222/3404	Ammonia Stripper	1964
224/3401	Lights tower (common with BLO unit)	1960
224/3402	Final tower (common with BLO unit)	1960
225/3401	Lights tower (common with BLO unit)	1965
225/3402	Final tower (common with BLO unit)	1965
315/3304	Polymerizer (common with 315 building)	1957
315/3307	Reactor (common with 315 building)	1975

The above list is larger process equipment, not an inclusive list of equipment. Many smaller pieces of equipment are within the process unit such as charge pots, coolers, receivers, seal pots, condensers, etc.

PY1 PYRROLIDONES UNIT PROCESS VENTS

01 **Pyrrolidones Unit Vent Emissions**
Controls: None

02 **Pyrrolidones Unit Vent Emissions**
Controls: Riley Boiler 115/5307
(Emissions accounted for at boiler emission unit)

PY2 PYRROLIDONES UNIT FUGITIVE EMISSIONS

01 **Pyrrolidones Unit Fugitive VOC**
Controls: None

APPLICABLE REGULATIONS:
None

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

PYRROLIDONES UNIT (Emission Units PY1 and PY2)

NON-APPLICABLE REGULATIONS:
401 KAR 63:002, incorporating by reference 40 CFR 63 Subparts F, G, and H. 40 CFR 63.100(b)(1) - The chemical manufacturing process unit(s) are not subject to 40 CFR 63 Subparts F, G, or H since the unit(s) do not manufacture as a primary product a chemical listed in Table 1 of Subpart F.

401 KAR 63:002, incorporating by reference 40 CFR 63 Subpart FFFF. 40 CFR 63.2435(b)(2) - Process unit(s) do not process, use, or generate any of the organic HAP listed in Section 112(b) of the CAA or hydrogen halide and halogen HAP.

401 KAR 60:005, incorporating by reference 40 CFR 60 Subpart VV. Equipment in the process unit(s) are not an affected facility under Subpart VV since the process unit(s) do not produce, as an intermediate or final product, a chemical listed in 40 CFR 60.489.

401 KAR 60:005, incorporating by reference 40 CFR 60 Subpart NNN. Distillation units are not an affected facility under Subpart NNN since the process unit(s) do not produce, as a product, co-product, by-product, or intermediate a chemical listed in 40 CFR 60.667.

401 KAR 60:005, incorporating by reference 40 CFR 60 Subpart RRR. Reactors are not an affected facility under Subpart RRR since the process unit(s) do not produce, as a product, co-product, by-product, or intermediate a chemical listed in 40 CFR 60.707.

1. **Operating Limitations**:
   None

2. **Emission Limitations:**
   None

3. **Testing Requirements:**
   None

4. **Specific Monitoring Requirements:**
   None

5. **Specific Recordkeeping Requirements:**
   None

6. **Specific Reporting Requirements:**
   None

7. **Specific Control Equipment Operating Conditions:**
   None

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

VINYL PYRROLIDONES UNIT (Emission Units VP1 and VP2)

Major Process Equipment

Equipment ID	Description	Date Commenced
223/3401	Lights tower	1960
223/3402	Recovered pyrrolidone tower	1960
223/3403	Product tower	1965
223/3501	Stripper	1973
237/3211	High purification tower	1994
326/3304	Prep kettle	1962
326/3305	C vinylator	1962
326/3306	D vinylator	1965

The above list is larger process equipment, not an inclusive list of equipment. Many smaller pieces of equipment are within the process unit such as charge pots, coolers, receivers, seal pots, condensers, etc.

VP1 VINYL PYRROLIDONES UNIT PROCESS VENTS

01 **Vinyl Pyrrolidones Unit Vent Emissions**
Controls: None

VP2 VINYL PYRROLIDONES UNIT FUGITIVE EMISSIONS

01 **Vinyl Pyrrolidones Unit Fugitive VOC**
Controls: None

APPLICABLE REGULATIONS:
None

NON-APPLICABLE REGULATIONS:
401 KAR 63:002, incorporating by reference 40 CFR 63 Subparts F, G, and H. 40 CFR 63.100(b)(2) - The chemical manufacturing process unit(s) are not subject to 40 CFR 63 Subparts F, G, or H since the unit(s) not use as a reactant or manufacture as a product, or co-product an organic HAP listed in Table 2 of Subpart F.

401 KAR 63:002, incorporating by reference 40 CFR 63 Subpart FFFF. 40 CFR 63.2435(b)(2) - Process unit(s) do not process, use, or generate any of the organic HAP listed in Section 112(b) of the CAA or hydrogen halide and halogen HAP.

401 KAR 60:005, incorporating by reference 40 CFR 60 Subpart VV. Equipment in the process unit(s) are not an affected facility under Subpart VV since the process unit(s) do not produce, as an intermediate or final product, a chemical listed in 40 CFR 60.489.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

VINYL PYRROLIDONES UNIT (Emission Units VP1 and VP2)

NON-APPLICABLE REGULATIONS (Continued):
401 KAR 60:005, incorporating by reference 40 CFR 60 Subpart NNN. Distillation units are not an affected facility under Subpart NNN since the process unit(s) do not produce, as a product, co-product, by-product, or intermediate a chemical listed in 40 CFR 60.667.

401 KAR 60:005, incorporating by reference 40 CFR 60 Subpart RRR. Reactors are not an affected facility under Subpart RRR since the process unit(s) do not produce, as a product, co-product, by-product, or intermediate a chemical listed in 40 CFR 60.707.

1. **Operating Limitations:**
   None

2. **Emission Limitations:**
   None

3. **Testing Requirements:**
   None

4. **Specific Monitoring Requirements:**
   None

5. **Specific Recordkeeping Requirements:**
   Pursuant to 40 CFR 63 Subpart F, Sections 63.100(c) and 63.103(e), the permittee shall record and retain information, data, and analyses used to determine that the chemical manufacturing process unit does not use as a reactant or manufacture as a product or co-product any organic hazardous air pollutant listed in Table 2 of Subpart F.

6. **Specific Reporting Requirements:**
   None

7. **Specific Control Equipment Operating Conditions:**
   None

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

SOLVENT RECOVERY UNIT (SRU) (Emission Units SR1 and SR2)

Major Process Equipment

Equipment ID	Description	Nominal Capacity	Date Commenced
231/3402	Distillation column	--	Modified 1989
231/3403	Distillation column	--	Modified 1989

The above list is larger process equipment, not an inclusive list of equipment. Many smaller pieces of equipment are within the process unit such as charge pots, coolers, receivers, seal pots, condensers, etc.

SR1 SOLVENT RECOVERY UNIT (SRU) PROCESS VENTS

01 **SRU Process Vent Emissions**
Controls: 231/3406 Venturi Scrubber

02 **SRU Process Vent Emissions**
Controls: None

SR2 SOLVENT RECOVERY UNIT (SRU) FUGITIVE EMISSIONS

01 **SRU Fugitive VOC**
Controls: None

APPLICABLE REGULATIONS:
None

NON-APPLICABLE REGULATIONS:
401 KAR 63:002, incorporating by reference 40 CFR 63 Subparts F, G, and H. 40 CFR 63.100(b)(2) - The chemical manufacturing process unit(s) are not subject to 40 CFR 63 Subparts F, G, or H since the unit(s) not use as a reactant or manufacture as a product, or co-product an organic HAP listed in Table 2 of Subpart F.

401 KAR 63:002, incorporating by reference 40 CFR 63 Subpart FFFF. 40 CFR 63.2435(b)(2) - Process unit(s) do not process, use, or generate any of the organic HAP listed in Section 112(b) of the CAA or hydrogen halide and halogen HAP.

401 KAR 60:005, incorporating by reference 40 CFR 60 Subpart VV. Kentucky DAQ has determined that the solvent recovery unit is not subject to Subpart VV. This determination is contained in a February 10, 1996 letter from DAQ to ISP.

NON-APPLICABLE REGULATIONS (Continued):

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

SOLVENT RECOVERY UNIT (SRU) (Emission Units SR1 and SR2)

401 KAR 60:005, incorporating by reference 40 CFR 60 Subpart NNN. Kentucky DAQ has determined that the solvent recovery unit (distillation columns 231/3402 and 231/3403) is not subject to Subpart NNN. This determination is contained in a February 10, 1996 letter from DAQ to ISP.

1. **Operating Limitations**:
   None

2. **Emission Limitations:**
   None

3. **Testing Requirements:**
   None

4. **Specific Monitoring Requirements**:
   None

5. **Specific Recordkeeping Requirements:**
   Pursuant to 40 CFR 63 Subpart F, Sections 63.100(c) and 63.103(e), the permittee shall record and retain information, data, and analyses used to determine that the chemical manufacturing process unit does not use as a reactant or manufacture as a product or co-product any organic hazardous air pollutant listed in Table 2 of Subpart F.

6. **Specific Reporting Requirements:**
   None

7. **Specific Control Equipment Operating Conditions:**
   None

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

VINYL ETHERS UNIT (Emission Units VE1, VE2, and VE3)

Major Process Equipment

Equipment ID	Description	Date Commenced
332/3302	Reactor	1993
332/3401	Flame Arrestor	1965
332/3404	Product Tower	1965
332/3405	Alcohol Column	1965
332/3406	Purge Gas Scrubber	1965
332/3407	Wash Tower	1965
332/3408	Dryer	1965
332/3409	Dryer	1965
332/3410	Dryer	1965
332/3411	Steam Stripper Tower	1954
332/34xx	Reclaim Dryer #1	Proposed 2007
332/34xx	Reclaim Dryer #2	Proposed 2007
332/34xx	Reclaim Wash Tower	Proposed 2007
333/3101	Organic liquid storage tank (32,500 gal)	1965
333/3102	Organic liquid storage tank (15,450 gal)	1965
333/3103	Organic liquid storage tank (15,450 gal)	1965
333/3104	Organic liquid storage tank (32,500 gal)	1965
333/3105	Organic liquid storage tank (32,500 gal)	1965
333/3106	Organic liquid storage tank (32,500 gal)	1965
333/3107	Organic liquid storage tank (32,500 gal)	1965
333/3108	Organic liquid storage tank (32,500 gal)	1965
333/3109	Organic liquid storage tank (32,500 gal)	1965
--	MVE tank wagon loading and unloading	--

The above list is larger process equipment, not an inclusive list of equipment. Many smaller pieces of equipment are within the process unit such as charge pots, coolers, receivers, seal pots, condensers, etc.

VE1 VINYL ETHERS UNIT PROCESS VENTS

01 **Vinyl Ethers Unit Process Vent Emissions**
Controls: None

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

VINYL ETHERS UNIT (Emission Units VE1, VE2, and VE3)

VE2 VINYL ETHERS UNIT FUGITIVE VOC EMISSIONS

01 **Vinyl Ethers Unit Fugitive VOC**
Controls: None

VE3 VINYL ETHERS UNIT FUGITIVE METHANOL EMISSIONS

01 **Vinyl Ethers Unit Fugitive Methanol**
Controls: None

APPLICABLE REGULATIONS:
401 KAR 63:002, 40 CFR Part 63 National Emission Standards for Hazardous Air Pollutants, incorporating by reference 40 CFR 63 Subpart FFFF, National Emission Standards for Hazardous Air Pollutants: Miscellaneous Organic Chemical Manufacturing. The facility must comply with the requirements for existing sources no later than May 10, 2008.

NON-APPLICABLE REGULATIONS:
401 KAR 63:002, incorporating by reference 40 CFR 63 Subparts F, G, and H. 40 CFR 63.100(b)(1) - The VE chemical manufacturing process unit is not subject to 40 CFR 63 Subparts F, G, or H since the unit does not manufacture as a primary product a chemical listed in Table 1 of Subpart F.

401 KAR 60:005, incorporating by reference 40 CFR 60 Subpart VV. Equipment in the process unit(s) are not an affected facility under Subpart VV since the process unit(s) do not produce, as an intermediate or final product, a chemical listed in 40 CFR 60.489.

401 KAR 60:005, incorporating by reference 40 CFR 60 Subpart NNN. Distillation unit(s) are not an affected facility under Subpart NNN since the process unit(s) do not produce, as a product, co-product, by-product, or intermediate a chemical listed in 40 CFR 60.667.

401 KAR 60:005, incorporating by reference 40 CFR 60 Subpart RRR does not apply. Reactors are not an affected facility under Subpart RRR since the process unit(s) do not produce, as a product, co-product, by-product, or intermediate a chemical listed in 40 CFR 60.707.

1. **Operating Limitations:**
None

2. **Emission Limitations:**
None

3. **Testing Requirements:**
None

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

VINYL ETHERS UNIT (Emission Units VE1, VE2, and VE3)

4. Specific Monitoring Requirements:
None

5. Specific Recordkeeping Requirements:
None

6. Specific Reporting Requirements:
None

7. Specific Control Equipment Operating Conditions:
None

8. Compliance Certification Requirements:

a. The specific emission points and specific process units which are subject to 40 CFR 63 Subpart FFFF requirements shall be defined in the Notification of Compliance Status report required below.

b. The permittee shall submit a notification of compliance status report addressing compliance with 40 CFR 63 Subpart FFFF. The report shall include each section of the regulation that is applicable and the method of compliance for all operating and emission limitations. Pursuant to 40 CFR 63.2520(d)(1), the report must be submitted no later than 150 days after the applicable compliance date specified in 63.2445.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

STORAGE TANKS (Emission Unit TK1)

TK1 313/3004 VOLATILE ORGANIC LIQUIDS (VOL) STORAGE TANK

01 **313/3004 VOL Storage Tank**
Description: VOL Storage Tank:
Capacity: 300,000 gal
Commenced: 1965
Controls: None

APPLICABLE REGULATIONS:
None

NON-APPLICABLE REGULATIONS:
401 KAR 63:002, incorporating by reference 40 CFR 63 Subpart FFFF. Tank 313/3004 will be taken out of HAP service prior to 40 CFR 63 Subpart FFFF compliance date.

401 KAR 60:005, incorporating by reference 40 CFR 60 Subparts K, Ka, and Kb. 40 CFR 60 Subparts K, Ka, and Kb do not apply to tanks that commenced construction, reconstruction, or modification on or before June 11, 1973.

1. **Operating Limitations:**
None

2. **Emission Limitations:**
None

3. **Testing Requirements:**
None

4. **Specific Monitoring Requirements:**
None

5. **Specific Recordkeeping Requirements:**
None

6. **Specific Reporting Requirements:**
None

7. **Specific Control Equipment Operating Conditions:**
None

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

WASTEWATER TREATMENT (Emission Unit WW1)

Major Process Equipment

Equipment ID	Description	Date Commenced
--	Collection system	2006 – 2007
--	Intermediate sumps	Existing and proposed 2007
--	Transfer tank	Proposed 2007
--	Equalization tanks (two)	Proposed 2007
--	Selector tank	Proposed 2007
--	Aeration tanks (two)	Proposed 2007
--	Splitter box	Proposed 2007
--	Clarifiers (two)	1970s

WW1 WASTEWATER TREATMENT OPERATIONS

01 **Wastewater Treatment Fugitive VOC Emissions**
Controls: None

02 **Wastewater Treatment Fugitive HAP Emissions**
Controls: None

APPLICABLE REGULATIONS:
401 KAR 63:002, incorporating by reference 40 CFR Part 63 Subpart FFFF, National Emission Standards for Hazardous Air Pollutants: Miscellaneous Organic Chemical Manufacturing. The facility must comply with the requirements for existing sources no later than May 10, 2008.

1. **Operating Limitations:**
None

2. **Emission Limitations:**
None

3. **Testing Requirements:**
None

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

WASTEWATER TREATMENT (Emission Unit WW1)

4. Specific Monitoring Requirements:
None

5. Specific Recordkeeping Requirements:
None

6. Specific Reporting Requirements:
None

7. Specific Control Equipment Operating Conditions:
None

8. Compliance Certification Requirements:

a. The specific emission points and specific process units which are subject to 40 CFR 63 Subpart FFFF requirements shall be defined in the Notification of Compliance Status report required below.

b. The permittee shall submit a notification of compliance status report addressing compliance with 40 CFR 63 Subpart FFFF. The report shall include each section of the regulation that is applicable and the method of compliance for all operating and emission limitations. Pursuant to 40 CFR 63.2520(d)(1), the report must be submitted no later than 150 days after the applicable compliance date specified in 63.2445.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

240 BUILDING (Emission Units 240, 241, 242, and 245)

Major Process Equipment

Equipment ID	Description	Date Commenced
240/3303	Reactor 1 (2,700 gal)	1968
240/3307	Reactor 3 (4,500 gal)	1987
240/3308	Reactor 4 (4,500 gal)	1992
240/3309	Reactor 2 (3,500 gal)	1993
240/33xx	Reactor 5 (6,000 gal)	Proposed 2007
240/3501	Dryer 2	1967
240/3502	Dryer 1	1967
240/3503	Dryer 3	1987
240/35xx	Dryer 4	Proposed 2007
240/3704	Dryer product handling cyclone	1967
240/3708	Dryer product handling baghouse	1987
240/3709	Dryer product handling baghouse	1987
240/3712	Dryer product handling cyclone	1987
240/3713	Dryer product handling baghouse	1987
Benzene Storage Vessels:		
242/3001	Benzene storage tank (12,700 gallon)	1967
242/3002	Benzene storage tank (12,700 gallon)	1967
242/3005	Benzene storage tank (40,000 gallon)	1976
Benzene Surge Control Vessels:		
240/3201	Catalyst pot	
240/3202	Receiver	1967
240/3214	Receiver	
240/3215	Receiver	
240/3226	Receiver	1987
240/3229	Blend / dryer feed tank	1987
240/3233	Blend / dryer feed tank	1987
240/3241	Catalyst pot	1989
240/3243	Catalyst pot	1992

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

240 BUILDING (Emission Units 240, 241, 242, and 245)

Equipment ID	Description	Date Commenced
240/3253	Strip tank	1992
240/3254	Dryer feed tank	1992
240/3260	Catalyst pot	1993
240/3302	Dryer feed tank	1967
240/3304	Dryer feed tank	1968

The above list is larger process equipment, not an inclusive list of equipment. Many smaller pieces of equipment are within the process unit such as charge pots, coolers, receivers, seal pots, condensers, etc.

240 240 BUILDING FUGITIVE EMISSIONS

01 **240 Building Fugitive VOC**
Controls: None

02 **240 Building Fugitive HAP**
Controls: Leak Detection and Repair for components in benzene service

241 240 BUILDING PROCESS VENTS

01 **240 Building Process Vent Emissions**
Controls: 240 Thermal Oxidizer 421/5312 (Selected Process Vents)
None (Other Process Vents)

242 240 BUILDING BENZENE STORAGE VESSELS

01 **240 Building Benzene Storage Vessel Emissions**
Tanks 242/3001, 242/3002, 242/3005
Controls: 240 Thermal Oxidizer 421/5312
Vent Sorbs (carbon canisters) used as an alternative control device, to be used only during periods when the level of benzene in the storage vessel is not raised and the remaining units connected to the vent header system are not operated

245 240 THERMAL OXIDIZER PRODUCTS OF COMBUSTION

01 **240 Thermal Oxidizer Combustion Product Emissions**
Controls: None

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

240 BUILDING (Emission Units 240, 241, 242, and 245)

APPLICABLE REGULATIONS:
401 KAR 50:055, General Compliance Requirements.

401 KAR 57:002, incorporating by reference 40 CFR 61 Subpart FF, National Emission Standard for Benzene Waste Operations.

401 KAR 57:002, incorporating by reference 40 CFR 61 Subpart J, National Emission Standard for Equipment Leaks (Fugitive Emission Sources) of Benzene.

401 KAR 57:002, incorporating by reference 40 CFR 61 Subpart V, National Emission Standard for Equipment Leaks (Fugitive Emission Sources).

401 KAR 57:002, incorporating by reference 40 CFR 61 Subpart Y, National Emission Standard for Benzene Emissions from Benzene Storage Vessels.

401 KAR 63:002, incorporating by reference 40 CFR Part 63 Subpart FFFF, National Emission Standards for Hazardous Air Pollutants: Miscellaneous Organic Chemical Manufacturing. The facility must comply with the requirements for existing sources no later than May 10, 2008.

NON-APPLICABLE REGULATIONS:
401 KAR 51:017, Prevention of Significant Deterioration of Air Quality (PSD) does not apply to Reactor 5 (240/33xx) and Dryer 4 (240/35xx). The permittee has accepted control requirements to preclude the applicability of PSD for VOC from the installation of this equipment.

401 KAR 63:002, incorporating by reference 40 CFR 63 Subparts F, G, and H. 40 CFR 63.100(b)(1) does not apply to the 240 Building – The chemical manufacturing process unit(s) are not subject to 40 CFR 63 Subparts F, G, or H since the unit(s) do not manufacture as a primary product a chemical listed in Table 1 of Subpart F.

401 KAR 60:005, incorporating by reference 40 CFR 60 Subpart VV does not apply to the 240 Building. Equipment in the process unit(s) are not an affected facility under Subpart VV since the process unit(s) do not produce, as an intermediate or final product, a chemical listed in 40 CFR 60.489.

401 KAR 60:005, incorporating by reference 40 CFR 60 Subpart RRR. Reactor processes designed and operated as a batch operation are exempt under 40 CFR 60.700(c)(1).

401 KAR 57:002, incorporating by reference 40 CFR 61 Subpart BB does not apply to Benzene Loading. Benzene loading is not subject to 40 CFR 61 Subpart BB since the facility is not a benzene production or bulk terminal, as defined in 40 CFR 61.301.

NON-APPLICABLE REGULATIONS (Continued):

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

240 BUILDING (Emission Units 240, 241, 242, and 245)

401 KAR 57:002, incorporating by reference 40 CFR 61 Subpart FF Control Requirements does not apply to Benzene Waste. Pursuant to 40 CFR 61.342(a), the permittee is exempt from the control requirements of 61.342(b) and (c), since the total annual benzene quantity from facility waste is less than 10 Mg/yr, as determined according to 61.342(a)(1)-(4) and 61.355(a)(1) and (2).

401 KAR 57:002, incorporating by reference 40 CFR 61 Subpart J. Pursuant to 40 CFR 61.111, equipment that contains or contacts a fluid that is less than 10 percent benzene by weight (as determined according to 61.245(d)) is not considered to be in benzene service, and is therefore not subject to 40 CFR 61 Subparts J and V.

401 KAR 57:002, incorporating by reference 40 CFR 61 Subpart V. Pursuant to 40 CFR 61.242-1(e), equipment that is in vacuum service (operating at an internal pressure at least 5 kPa below ambient pressure) is exempt from the control requirements of 61.242-2 to 61.242-11 if it is identified as required in 61.246(e)(5).

401 KAR 60:005, incorporating by reference 40 CFR 60 Subpart RRR does not apply to Reactors in the 240 Building. Reactors in the process unit(s) are not an affected facility as defined in 40 CFR 60 Subpart RRR since the process unit(s) do not produce, as a product, co-product, by-product, or intermediate, a chemical listed in 40 CFR 60.707. Additionally, 40 CFR 60.700(c)(1) exempts reactor processes designed and operated as a batch operation.

1. Operating Limitations:

242/3001 Benzene Storage Tank
242/3002 Benzene Storage Tank
242/3005 Benzene Storage Tank

Closed Vent Systems for Capturing Surge Control Vessel and Storage Vessel Benzene Emissions

a. Pursuant to 40 CFR 61 Subpart Y, Section 61.271(c)(1), each storage tank shall be equipped with a closed-vent system designed to collect all benzene vapors from the storage vessel and operated with no detectable emissions, as indicated by an instrument reading of less than 500 ppmv above background and visual inspections, as determined in 40 CFR 61.242-11 (Subpart V).

1. Operating Limitations (Continued):

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

240 BUILDING (Emission Units 240, 241, 242, and 245)

b. Pursuant to 40 CFR 61 Subpart Y, Section 61.271(c)(3), the specifications and requirements listed in 40 CFR 61.271(c)(1) and (c)(2) for closed vent systems and control devices controlling emissions from benzene storage vessels do not apply during periods of routine maintenance. During periods of routine maintenance, the benzene level in the storage vessels serviced by the control device subject to 40 CFR 61.271(c) may be lowered but not raised. Periods of routine maintenance shall not exceed 72 hours per year as outlined in the maintenance plan required by 40 CFR 61.272(c)(1)(iii).

c. Pursuant to 40 CFR 61 Subpart Y, Section 61.271(c)(4), the specifications and requirements listed in 61.271(c)(1) and (c)(2) for closed vent systems and control devices used to control emissions from the benzene storage vessels do not apply during a control system malfunction. A control system malfunction means any sudden and unavoidable failure of air pollution control equipment. A failure caused entirely or in part by design deficiencies, poor maintenance, careless operation, or other preventable upset condition or equipment breakdown is not considered a malfunction.

d. Pursuant to 40 CFR 61 Subpart V, Section 61.242-11(m), the closed vent system and control device used to comply with Subpart V shall be operated at all times when emissions may be vented to them.

e. Pursuant to 40 CFR 61 Subpart V, Section 61.242-11(g), leaks, as indicated by an instrument reading greater than 500 parts per million by volume above background or by visual inspections, shall be repaired as soon as practicable except as provided in 40 CFR 61.242-11 (h). A first attempt at repair shall be made no later than 5 calendar days after the leak is detected. Repair shall be completed no later than 15 calendar days after the leak is detected.

f. Pursuant to 40 CFR 61 Subpart V, Section 61.242-11(h), delay of repair of a closed vent system for which leaks have been detected will be allowed if repair within 15 days is technically infeasible without a process unit shutdown, or if the permittee determines that emissions resulting from immediate repair would be greater than the fugitive emissions likely to result from delay of repair. Repair of such equipment shall be complete by the end of the next process unit shutdown.

Fugitive VOC Components in Volatile HAP (Benzene) Service

g. Pursuant to 40 CFR 61 Subpart V, Section 61.242-1(d), each piece of equipment to which Subpart V applies shall be marked in such a manner that it can be distinguished readily from equipment that is not subject to Subpart V.

1. Operating Limitations (Continued):

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

240 BUILDING (Emission Units 240, 241, 242, and 245)

Pumps in Benzene Service

h. Pursuant to 40 CFR 61 Subpart V, Section 61.242-2(c), when a leak is detected for a pump in benzene service, it shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected, except as provided in 40 CFR 61.242-10. The first attempt at repair shall be made no later than 5 calendar days after each leak is detected. Pursuant to 40 CFR 61 Subpart V, Section 61.242-10(a), (b), and (d), delay of repair of leaking pumps is allowed if:
   1) The repair is technically infeasible without a process unit shutdown, and repair of this equipment occurs by the end of the next process unit shutdown;
   2) The equipment is isolated from the process and does not remain in benzene service; or
   3) Repair involves the use of a dual mechanical seal system that includes a barrier fluid system, and the repair is completed as soon as practicable, but not later than 6 months after the leak was detected.

i. Pursuant to 40 CFR 61 Subpart V, Section 61.246(b), when each leak is detected as specified in 61.242-2, a weatherproof and readily visible identification, marked with the equipment identification number, shall be attached to the leaking equipment. The identification may be removed after the equipment has been repaired.

j. Pursuant to 40 CFR 61 Subpart V, Section 61.242-2(e), each pump that is designated, as described in 40 CFR 61.246(e)(2), for no detectable emissions, as indicated by an instrument reading of less than 500 ppmv above background, is exempt from the requirements of 40 CFR 61.242-2(a), (c), and (d), if the requirements of 40 CFR 61.242-2(e)(1) through (3) are met.

k. Pursuant to 40 CFR 61 Subpart V, Section 61.242-2(f), each pump that is equipped with a closed-vent system capable of capturing and transporting any leakage from the seal or seals to the 421/5312 240 Thermal Oxidizer is exempt from the requirements of 40 CFR 61.242-2(a) through (e).

Pressure Relief Devices in Benzene Gas/Vapor Service

l. Pursuant to 40 CFR 61 Subpart V, Section 61.242-4(a), except during pressure releases, each pressure relief device in benzene gas/vapor service shall be operated with no detectable emissions, as indicated by an instrument reading of less than 500 ppmv above background, as measured by the method specified in 40 CFR 61.245(c).

1. Operating Limitations (Continued):

m. Pursuant to 40 CFR 61 Subpart V, Section 61.242-4(b)(1), after each pressure release, the pressure relief device shall be returned to a condition of no detectable emissions, as indicated

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

240 BUILDING (Emission Units 240, 241, 242, and 245)

by an instrument reading of less than 500 ppmv above background, as soon as practicable, but no later than 5 calendar days after each pressure release, except:

1) As specified in 40 CFR 61.242-10(a), the repair is technically infeasible without a process unit shutdown, and repair of this equipment occurs by the end of the next process unit shutdown;
2) As specified in 40 CFR 61.242-10(b), the equipment is isolated from the process and does not remain in benzene service; or
3) As specified in 40 CFR 61.242-4(c), any pressure relief device that is equipped with a closed-vent system capable of capturing and transporting leakage from the pressure relief device to the 421/5312 240 Thermal Oxidizer is exempt from the requirements of 40 CFR 61.242-4(a) and (b).

Sampling Connection Systems in Benzene Service

n. Pursuant to 40 CFR 61 Subpart V, Section 61.242-5(a), each sampling connection system in benzene service shall be equipped with a closed-purge, closed-loop, or a closed-vent system, except as provided in 40 CFR 61.242-1(c). Gases displaced during filling of the sample container are not required to be collected or captured.

o. Pursuant to 40 CFR 61 Subpart V, Section 61.242-5(c), in-situ sampling systems and sampling systems without purges are exempt from the requirements of 40 CFR 61.242-5(a) and (b).

p. Pursuant to 40 CFR 61 Subpart V, Section 61.242-5(b), each closed-purge, closed-loop, or closed-vent system shall:
   1) Return the purged process fluid directly to the process line; or
   2) Collect and recycle the purged process fluid; or
   3) Be designed and operated to capture and transport all the purged process fluid to the 421/5312 240 Thermal Oxidizer; or
   4) Collect, store, and transport the purged process fluid to any of the facilities specified in 40 CFR 61.242-5(b)(4)(i) through (iii).

1. Operating Limitations (Continued):

Open-Ended Valves or Lines in Benzene Service

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

240 BUILDING (Emission Units 240, 241, 242, and 245)

q. Pursuant to 40 CFR 61 Subpart V, Section 61.242-6(a) through (c), each open-ended valve or line in benzene service shall be equipped with a cap, blind flange, plug, or a second valve. The cap blind flange, plug, or second valve shall seal the open end at all times except during operations requiring process fluid flow through the open-ended valve or line. Each open-ended valve or line equipped with a second valve shall be operated in a manner such that the valve on the process fluid end is closed before the second valve is closed. When a double block and bleed system is being used, the bleed valve or line may remain open during operations that require venting the line between the block valves.

Valves in Benzene Service

r. Pursuant to 40 CFR 61 Subpart V, Section 61.242-7(d), when a leak is detected for a valve in benzene service, it shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected, except as provided in 40 CFR 61.242-10. The first attempt at repair shall be made no later than 5 calendar days after each leak is detected. First attempts at repair include, but are not limited to, the best practices described in 40 CFR 61.242-7(e). Pursuant to 40 CFR 61 Subpart V, Section 61.242-10(a), (b), (c) and (e), delay of repair of leaking valves is allowed if:
   1) As specified in 40 CFR 61.242-10(a), the repair is technically infeasible without a process unit shutdown, and repair of this equipment occurs by the end of the next process unit shutdown;
   2) As specified in 40 CFR 61.242-10(b), the equipment is isolated from the process and does not remain in benzene service;
   3) As specified in 40 CFR 61.242-10(c), the permittee demonstrates that emission of purged material resulting from immediate repair are greater than the fugitive emissions likely to result from delay of repair, and when repair procedures are effected, the purged material is collected and destroyed or recovered in a control device complying with 40 CFR 61.242-11; or
   4) As specified in 40 CFR 61.242-10(e), delay of repair beyond a process unit shutdown will be allowed for a valve if valve assembly replacement is necessary during the process unit shutdown, valve assembly supplies have been depleted, and valve assembly supplies had been sufficiently stocked before the supplies were depleted. Delay of repair beyond the next process unit shutdown will not be allowed unless the next process unit shutdown occurs sooner than 6 months after the first process unit shutdown.

1. Operating Limitations (Continued):

s. Pursuant to 40 CFR 61 Subpart V, Section 61.246(b), when each leak is detected as specified in 40 CFR 61.242-7, a weatherproof and readily visible identification, marked with the equipment identification number, shall be attached to the leaking equipment. The identification on a valve may be removed after it has been monitored for 2 successive months as specified in 40 CFR

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

240 BUILDING (Emission Units 240, 241, 242, and 245)

61.242-7(c) and no leak has been detected during those 2 months.

Pressure Relief Devices in Liquid Benzene Service, and Flanges and Other Connectors in Benzene Service

t. Pursuant to 40 CFR 61 Subpart V, Section 61.242-8(c) and (d), when a leak is detected, it shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected, except as provided in 40 CFR 61.242-10. The first attempt at repair shall be made no later than 5 calendar days after each leak is detected. First attempts at repair include, but are not limited to, the best practices described in 40 CFR 61.242-7(e). Pursuant to 40 CFR 61 Subpart V, Section 61.242-10(a), and (b), delay of repair is allowed if:
   1) As specified in 40 CFR 61.242-10(a), the repair is technically infeasible without a process unit shutdown, and repair of this equipment occurs by the end of the next process unit shutdown; or
   2) As specified in 40 CFR 61.242-10(b), the equipment is isolated from the process and does not remain in benzene service.

u. Pursuant to 40 CFR 61 Subpart V, Section 61.246(b), when each leak is detected as specified in 61.242-8, a weatherproof and readily visible identification, marked with the equipment identification number, shall be attached to the leaking equipment. The identification may be removed after the equipment has been repaired.

Benzene Surge Control Vessels

v. Pursuant to 40 CFR 61 Subpart V, Section 61.242-9, the surge control vessels in benzene service identified in the equipment table above shall be equipped with a closed-vent system capable of capturing and transporting any leakage from the vessels to the 421/5312 240 Thermal Oxidizer.

Compliance Demonstration Method:
For compliance demonstration with operating limitations, benzene vapors collected by the closed-vent system shall be controlled by the 421/5312 240 Thermal Oxidizer. During periods when the storage vessel levels are not raised, benzene vapors collected by the closed-vent system may be controlled by the Vent Sorb system (carbon canister). Also refer to **4. Specific Monitoring Requirements**, **Specific Recordkeeping**, and **F.9** reporting requirements.

2. Emission Limitations:

Closed-Vent Systems and Control Devices
421/5312 240 Thermal Oxidizer
240 Vent Sorb System (Carbon Canister)

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

240 BUILDING (Emission Units 240, 241, 242, and 245)

a. Pursuant to 40 CFR 61 Subpart V, Section 61.242-11(c) and Subpart Y, Section 61.271(c)(2), the controls shall be designed and operated to reduce inlet benzene emissions by 95 weight percent or greater, except as follows:
   1) Pursuant to 401 KAR 50:055, Section 1(1), emissions due to shutdowns or malfunctions which temporarily exceed the standard shall not be deemed in violation of such standards if the requirements of 401 KAR 50:055, Sections 1(2) and 1(3) are satisfied, and the Director makes the determinations specified in Section 1(4).
   2) Pursuant to 40 CFR 61 Subpart Y, Section 61.271(c)(3), the specifications and requirements listed in 40 CFR 61.271(c)(1) and (c)(2) for closed vent systems and control devices controlling emissions from the benzene storage vessels do not apply during periods of routine maintenance. During periods of routine maintenance, the benzene level in the storage vessels serviced by the control device subject to the provisions of 40 CFR 61.271(c) may be lowered but not raised. Periods of routine maintenance shall not exceed 72 hours per year as outlined in the maintenance plan required by 40 CFR 61.272(c)(1)(iii).
   3) Pursuant to 40 CFR 61 Subpart Y, Section 61.271(c)(4), the specifications and requirements listed in 61.271(c)(1) and (c)(2) for closed vent systems and control devices used to control emissions from the benzene storage vessels do not apply during a control system malfunction. A control system malfunction means any sudden and unavoidable failure of air pollution control equipment. A failure caused entirely or in part by design deficiencies, poor maintenance, careless operation, or other preventable upset condition or equipment breakdown is not considered a malfunction.

Compliance Demonstration Method:
For compliance using the Thermal Oxidizer to meet the emission limit, refer to **Specific Reporting Requirement 6.e**. For compliance when using the Vent Sorb system to meet the emission limit, refer to **Specific Monitoring Requirement 4.b** and **7. Specific Control Equipment Operating Conditions**, by control of benzene tank breathing losses (no filling of tanks) and the remainder of building emission units on the vent header system are not operated.

240/33xx Reactor 5
240/35xx Dryer 4

b. VOC emissions from Reactor 5 and Dryer 4 shall not exceed 36 ton/yr. [To preclude applicability of 401 KAR 51:017, PSD for VOC]

2. Emission Limitations (Continued):

Compliance Demonstration Method:
At all times, vent emissions from Reactor 5 and Dryer 4 shall be controlled by the 421/5312 240 Thermal Oxidizer. Refer to **7.Specific Control Equipment Operating Conditions** below.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

240 BUILDING (Emission Units 240, 241, 242, and 245)

3. Testing Requirements:

a. Pursuant to 40 CFR 61 Subpart Y, Section 61.245(a), the permittee shall comply with the test methods and procedures in 40 CFR 61.245.

421/5312 240 Thermal Oxidizer

b. Pursuant to 401 KAR 50:045, Section 1, performance testing as specified in 40 CFR 63.2450(g) shall be conducted within 180 days after May 10, 2008.

4. Specific Monitoring Requirements:

421/5312 240 Thermal Oxidizer
Vent Sorb System (Carbon Canister)

a. Pursuant to 40 CFR 61 Subpart V, Section 61.242-11(e), the permittee shall monitor the control device to ensure that it is operated and maintained in conformance with its design. For the Thermal Oxidizer, this shall be accomplished by continuously monitoring the oxidizer combustion temperature. For the Vent Sorb unit, refer to **Specific Monitoring Requirement 4.b**.

b. Pursuant to 40 CFR 61 Subpart Y, Section 61.272(c)(2), the permittee shall operate, monitor the parameters, and maintain the closed vent system and control device in accordance with the operating plan. When the Vent Sorb system is being used to control emissions for compliance with 40 CFR 61 Subpart Y, the permittee shall monitor the Vent Sorb outlet daily using Method 21 whenever the Vent Sorb unit has been in benzene abatement service for more than 80 hours. The first Method 21 monitoring shall occur within 8 hours of passing the 80 hour in-service time. If an instrument reading of 500 ppmv above background or greater is measured, then the carbon drum shall be changed within 8 hours. When the Thermal Oxidizer is being used to control emissions for compliance with 40 CFR 61 Subpart Y, the Thermal Oxidizer temperature is continuously monitored.

4. Specific Monitoring Requirements (Continued):

Closed Vent Systems for Capturing Surge Control Vessel and Storage Vessel Benzene Emissions

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

240 BUILDING (Emission Units 240, 241, 242, and 245)

c. Pursuant to 40 CFR 61, Subpart V, Section 61.242-11(f), except as provided in 40 CFR 61.242-11(i) through (k), each closed vent system shall be inspected according to the procedures and schedule specified in 40 CFR 61.242-11(f)(1) or (2), as applicable.
   1) If the vapor collection system or closed vent system is constructed of hard-piping, the owner or operator shall comply with the following requirements:
      i) Conduct an initial inspection according to the procedures in 40 CFR 61.245(b); and
      ii) Conduct annual visual inspections for visible, audible, or olfactory indications of leaks.
   2) If the vapor collection system or closed vent system is constructed of ductwork, the owner or operator shall:
      i) Conduct an initial inspection according to the procedures in 40 CFR 61.245(b); and
      ii) Conduct annual inspections according to the procedures in 40 CFR 61.245(b).

Pumps in Benzene Service

d. Pursuant to 40 CFR 61 Subpart V, Sections 61.242-2(a)(1) and (b)(1), each pump shall be monitored monthly to detect leaks by the method specified in 40 CFR 61.245(b), except as provided in 40 CFR 61.242-2(d), (e), (f) and (g). If an instrument reading of 10,000 ppmv or greater is measured, a leak is detected.

e. Pursuant to 40 CFR 61 Subpart V, Sections 61.242-2(a)(2) and (b)(2), each pump shall be checked by visual inspection each calendar week for indications of liquids dripping from the pump seal. If there are indications of liquids dripping from the pump seal, a leak is detected.

f. Pursuant to 40 CFR 61 Subpart V, Section 61.242-2(d), each pump equipped with a dual mechanical seal system that includes a barrier fluid system is exempt from the requirements of 40 CFR 61.242-2(a) and (b), provided that the operating and monitoring requirements of 40 CFR 61.242-2(d)(1) through (6) are met.

g. Pursuant to 40 CFR 61 Subpart V, Section 61.242-2(e), each pump that is designated, as described in Section 61.246(e)(2), for no detectable emissions, as indicated by an instrument reading of less than 500 ppmv above background, is exempt from the requirements of 40 CFR 61.242-2(a), (c), and (d), if the requirements of 40 CFR 61.242-2(e)(1) through (3) are met.

4. Specific Monitoring Requirements (Continued):

h. Pursuant to 40 CFR 61 Subpart V, Section 61.242-2(f), each pump that is equipped with a closed-vent system capable of capturing and transporting any leakage from the seal or seals to 421/5312 240 Thermal Oxidizer is exempt from the requirements of 40 CFR 61.242-2(a)-(e).

Pressure Relief Devices in Benzene Gas/Vapor Service

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

240 BUILDING (Emission Units 240, 241, 242, and 245)

i. Pursuant to 40 CFR 61 Subpart V, Section 61.242-4(b)(2), no later than 5 calendar days after each pressure release, the pressure relief device shall be monitored to confirm the condition of no detectable emissions, as indicated by an instrument reading of less than 500 ppmv above background, as measured by the method specified in 40 CFR 61.245(c).

Valves in Benzene Service

j. Pursuant to 40 CFR 61 Subpart V, Section 61.242-7(a) and (b), and except as provided below and in 40 CFR 61.242-7(f), (g), (h), 61.243-1, or 61.243-2, each valve in benzene service shall be monitored monthly to detect leaks using the method specified in 40 CFR 61.245(b). If an instrument rating of 10,000 ppmv or greater is measured, a leak is detected.

k. Pursuant to 40 CFR 61 Subpart V, Section 61.242-7(c), any valve for which a leak is not detected for 2 successive months may be monitored the first month of every quarter, beginning with the next quarter, until a leak is detected. If a leak is detected, the valve shall be monitored monthly until a leak is not detected for 2 successive months.

l. Pursuant to 40 CFR 61 Subpart V, Section 61.242-7(f), any valve that is designated, as described in 40 CFR 61.246(e)(2), for no detectable emissions, as indicated by an instrument reading of less than 500 ppmv above background, is exempt from the monthly monitoring required by 40 CFR 61.242-7(a) if the valve:
   1) Has no external actuating mechanism in contact with the process fluid;
   2) Is operated with emissions less than 500 ppmv above background, as measured by the method specified in 40 CFR 61.245(c); and
   3) Is tested for compliance with the 500 ppmv standard initially upon designation, annually, and at other times requested by the Division.

m. Pursuant to 40 CFR 61 Subpart V, Section 61.242-7(h), any valve that is designated, as described in 40 CFR 61.246(f)(2), as a difficult to monitor valve, is exempt from the monthly monitoring required by 40 CFR 61.242-7(a) if:
   1) The owner or operator demonstrates that the valve cannot be monitored without elevating the monitoring personnel more than 2 meters above a support surface;
   2) The process unit within which the valve is located is an existing process unit; and

4. Specific Monitoring Requirements (Continued):

   3) The owner or operator follows a written plan that requires monitoring of the valve at least once per calendar year.

n. Pursuant to 40 CFR 61 Subpart V, Section 61.242-7(g), any valve that is designated, as described in 40 CFR 61.246(f)(1), as an unsafe-to-monitor valve is exempt from the monthly monitoring required by 40 CFR 61.242-7(a) if:

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

240 BUILDING (Emission Units 240, 241, 242, and 245)

1) The owner or operator demonstrates that the valve is unsafe to monitor because monitoring personnel would be exposed to an immediate danger as a consequence of complying with 40 CFR 61.242-7(a); and

2) The owner or operator has a written plan that requires monitoring of the valve as frequent as practicable during safe-to-monitor times.

o. Pursuant to 40 CFR 61 Subpart V, Section 61.243-1(a) and (b)(1), the permittee may elect to have all valves within the process unit comply with an allowable percentage of valves leaking of equal or less than 2.0 percent. If the owner or operator decides to comply with this alternative, the owner or operator must notify the Division before implementing this alternative standard, and must comply with the requirements specified in 40 CFR 61.243-1.

p. Pursuant to 40 CFR 61 Subpart V, Section 61.243-2 (a), the permittee may elect to have all valves within the process unit comply with one of the alternative work practices specified in 40 CFR 61.243-2(b)(2) and (3). If the owner or operator decides to comply with one of these alternatives, the owner or operator must notify the Division before implementing this alternative standard, and must comply with the requirements specified in 40 CFR 61.243-2.

Pressure Relief Devices in Liquid Benzene Service, and Flanges and Other Connectors in Benzene Service

q. Pursuant to 40 CFR 61 Subpart V, Sections 61.242-8(a) and (b), pressure relief devices in liquid benzene service, and flanges and other connectors in benzene service shall be monitored within 5 days by the method specified in 40 CFR 61.245(b) if evidence of a potential leak is found by visual, audible, olfactory, or any other detection method. The owner or operator shall eliminate the visual, audible, olfactory, or other indicator of a potential leak. If an instrument reading of 10,000 ppmv or greater is measured, a leak is detected.

5. Specific Recordkeeping Requirements:

Benzene Waste Operations

a. Pursuant to 40 CFR 61 Subpart FF, Sections 61.355(a)(1) and (2), the permittee shall calculate and record the total annual benzene quantity from facility waste using the methods specified in 40 CFR 61.355(a)(1), (a)(2), (b), and (c). Calculation must be performed at least once each

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

240 BUILDING (Emission Units 240, 241, 242, and 245)

year and whenever there is a process change that could cause the quantity to increase to greater than or equal to 10 Mg/yr.

b. Pursuant to 40 CFR 61 Subpart FF, Section 61.356(b), the permittee shall maintain records that identify each waste stream at the facility subject to Subpart FF, and indicate whether or not the waste stream is controlled for benzene emissions.

c. Pursuant to 40 CFR 61 Subpart FF, Section 61.356(b)(1), for each waste stream not controlled for benzene the permittee shall keep records of test results, measurements, and calculations used to determine the waste stream properties specified in 40 CFR 61.356(b)(1) (data used to determine total annual benzene quantity from benzene waste).

d. Pursuant to 40 CFR 61 Subpart FF, Section 61.356(b)(5), for each facility where the annual waste quantity for process unit turnaround waste is determined according to 40 CFR 63.355(b)(5), the permittee shall keep records of process unit turnaround waste specified in 40 CFR 63.356(b)(5).

e. Pursuant to 40 CFR 61 Subpart FF, Section 61.356(a), the permittee shall retain records required by 40 CFR 61.356 in a readily accessible location at the facility site for a period of at least two years from the date of the record.

242/3001 Benzene Storage Tank
242/3002 Benzene Storage Tank
242/3005 Benzene Storage Tank

f. Pursuant to 40 CFR 61 Subpart Y, Section 61.276(b), the permittee shall keep readily accessible records showing the dimensions of the storage vessel and an analysis showing the capacity of the storage vessel. This record shall be kept as long as the storage vessel is in operation.

g. Refer to **Specific Recordkeeping Requirements** for the Thermal Oxidizer and Vent Sorb system, **5.m** though **5.p**.

5. <u>Specific Recordkeeping Requirements</u> (Continued):

421/5312 240 Thermal Oxidizer

h. Pursuant to 40 CFR 61 Subpart A, Section 61.14(f), the permittee shall record and retain the following records for the oxidizer temperature monitoring system:

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

240 BUILDING (Emission Units 240, 241, 242, and 245)

1) The permittee shall record the oxidizer combustion temperature.
2) The permittee shall maintain records of temperature monitoring system calibration checks.
3) The permittee shall maintain records of the occurrence and duration of any period during which the monitoring system is malfunctioning or inoperative.

i. In order to demonstrate compliance with 40 CFR 61 Subpart V, Section 61.242-11(c) and Subpart Y, Section 61.271(c)(2), if the combustion temperature falls below 1390° F for 15 minutes or longer, the permittee shall calculate and retain records of the weight percent benzene reduction for the 24-hour operating day period inclusive of the incident. Pursuant to 40 CFR 61 Subpart A, Section 61.14(e), monitoring data recorded during periods of unavoidable monitoring system breakdowns, repairs, calibration checks, and zero and span adjustments shall not be included in any data average.

j. Refer to **Specific Recordkeeping Requirements** for the closed vent systems for capturing surge control vessel and storage vessel benzene emissions, **5.q** though **5.s**.

k. Pursuant to 40 CFR 61 Subpart V, Section 61.246(d)(3), the permittee shall record and keep in a readily accessible location a description of the parameters monitored, as required by 40 CFR 61.242-11(e), and an explanation of why the parameters were selected for monitoring.

l. Pursuant to 401 KAR 52:020 and 40 CFR 61 Subpart A, Section 61.13(c), the permittee shall maintain at the source for at least five years, and make available upon request to the Division, records of emission test results and other data needed to determine emissions.

5. Specific Recordkeeping Requirements (Continued):

421/5312 240 Thermal Oxidizer
240 Vent Sorb System

m. Pursuant to 40 CFR 61 Subpart Y, Section 61.276(c)(1), a copy of the Operating Plan required

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

240 BUILDING (Emission Units 240, 241, 242, and 245)

by 40 CFR 61.272(c)(1) shall be kept in a readily accessible location for as long as the closed vent system and control devices (Thermal Oxidizer and Vent Sorb System) for the benzene storage vessels are in use. The Operating Plan shall include the information specified in 40 CFR 61.272(c)(1), including: documentation demonstrating that the control devices achieve the required control efficiency; a description of the parameter or parameters to be monitored to ensure that the control devices are operated and maintained in conformance with its design and an explanation of the criteria used for selection of that parameter; and a maintenance plan for the system. As specified by 40 CFR 61.272(c)(1)(iii), the maintenance plan shall require that the system be out of compliance with 40 CFR 61.271(c) for no more than 72 hours per year.

n. Pursuant to 40 CFR 61 Subpart Y, Section 61.276(a), the permittee shall maintain copies of all reports and records required by Subpart Y for at least two years, with the exception of the Operating Plan, which must be kept for as long as the control device is operating.

o. Pursuant to 40 CFR 61 Subpart Y, Section 61.276(c)(2), the permittee shall maintain records of measured values of the monitored parameters specified in the operating plan required by 40 CFR 61.272(c).

p. Pursuant to 40 CFR 61 Subpart Y, Section 61.276(c)(3), the permittee shall maintain records of maintenance performed in accordance with 40 CFR 61.272(c)(1)(iii) of the operating plan, including the the duration of each time the closed vent system and control device does not meet the specifications of 40 CFR 61.271(c) due to maintenance, including the following:
   1) The first time of day and date the requirements of 40 CR 61.271(c) were not met at the beginning of maintenance
   2) The first time of day and date the requirements of 40 CFR 61.271(c) were met at the conclusion of maintenance
   3) A continuous record of the liquid level in benzene storage tanks 242/3001, 242/3002, and 242/3005 during the interval between the times specified by (c)(3)(i)(A) and (c)(3)(i)(B). Pumping records (simultaneous input and output) may be substituted for records of the liquid level.

5. <u>Specific Recordkeeping Requirements</u> (Continued):

Closed Vent Systems for Capturing Surge Control Vessel and Storage Vessel Benzene Emissions

q. Pursuant to 40 CFR 61 Subpart V, Section 61.246(d)(4), the permittee shall record periods when the closed-vent system and control device is not operated as designed and retain such

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

240 BUILDING (Emission Units 240, 241, 242, and 245)

records in a readily accessible location.

r. Pursuant to 40 CFR 61 Subpart V, Sections 61.246(d)(1) and (2), the permittee shall record and keep in a readily accessible location detailed schematics, design specifications, piping and instrument diagrams, and dates and descriptions of any changes in the design specifications for the closed vent system and control device.

s. Pursuant to 40 CFR 61 Subpart V, Section 61.246(d)(5), the permittee shall record and keep in a readily accessible location the dates of startups and shutdowns of the closed-vent system and control device.

t. Pursuant to 40 CFR 61 Subpart V, Section 61.242-11(l), the permittee shall record the following information:
   1) Identification of all parts of the closed vent system that are designated as unsafe-to-inspect, an explanation of why the equipment is unsafe-to-inspect, and the plan for inspecting the equipment.
   2) Identification of all parts of the closed vent system that are designated as difficult-to-inspect, an explanation of why the equipment is difficult-to-inspect, and the plan for inspecting the equipment.
   3) For each inspection during which a leak is detected, a record of the information specified in 40 CFR 61.246(c).
   4) For each inspection conducted in accordance with 40 CFR 61.245(b) during which no leaks are detected, a record that the inspection was performed, the date of the inspection, and a statement that no leaks were detected.
   5) For each visual inspection conducted in accordance with 40 CFR 61.242-11(f)(1)(ii) during which no leaks are detected, a record that the inspection was performed, the date of the inspection, and a statement that no leaks were detected.

5. Specific Recordkeeping Requirements (Continued):

Fugitive VOC Components Not in Volatile HAP (Benzene) Service

u. Pursuant to 40 CFR 61 Subpart V, Sections 61.246(i)(2) and (j), for equipment (as defined in Subpart V) in the 240 Building that is not in benzene service, an analysis demonstrating that such equipment is not in benzene service shall be recorded in a log that is kept in a readily

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

240 BUILDING (Emission Units 240, 241, 242, and 245)

accessible location. The record shall include information and data used to demonstrate that the equipment is not in benzene service.

Fugitive VOC Components in Volatile HAP (Benzene) Service

v. Pursuant to 40 CFR 61 Subpart V, Section 61.246, the following records and information shall be recorded in a log that is kept in a readily accessible location:
   1) As required by 40 CFR 61.246(e)(1), a list of identification numbers of equipment (except welded fittings) subject to Subpart V.
   2) As required by 40 CFR 61.246(e)(2), a list of identification numbers of equipment that the permittee elects to designate for no detectable emissions, as indicated by an instrument reading less than 500 ppmv above background. The designation of this equipment as no detectable emissions must be signed by the owner or operator.
   3) As required by Section 61.246(e)(5), a list of identification numbers of equipment in vacuum service.
   4) As required by Section 61.246(e)(4), for equipment in benzene service designated as no detectable emissions, records of the dates, background level, and maximum instrument reading measured during each compliance test.
   5) As required by Section 61.246(e)(3), a list of identification numbers for pressure relief devices in benzene gas/vapor subject to the requirements of 40 CFR 61.242-4(a).
   6) As required by Section 61.246(e)(4), for pressure relief devices in benzene gas/vapor service, records of the dates, background level, and maximum instrument reading measured during each compliance test.
   7) As required by Section 61.246(f)(1), for valves and pumps in benzene service designated as unsafe-to-monitor under 40 CFR 61.242-7(g) or 61.242-2(g): a list of identification numbers for valves and pumps that are designated as unsafe-to-monitor; an explanation for each stating why the valve or pump is unsafe-to-monitor; and the plan for monitoring each valve or pump.
   8) As required by Section 61.246(f)(2), for valves in benzene service designated as difficult to monitor under 40 CFR 61.242-7(h): a list of identification numbers for valves designated as difficult to monitor; an explanation of why the valve is difficult to monitor; and the planned schedule for monitoring each difficult to monitor valve.

5. <u>Specific Recordkeeping Requirements</u> (Continued):

   9) As required by Section 61.246(g), for all valves complying with 40 CFR 61.243-2 (skip period leak detection and repair), records of the monitoring schedule and the percent of valves found leaking during each monitoring period.
   10) As required by Section 61.246(c), when each leak is detected as specified in 40 CFR 61.242-2, 61.242-3, 61.242-7, 61.242-8, and 61.135, the following information shall be recorded and retained for two years:
      i) The instrument and operators' identification numbers and equipment identification

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

240 BUILDING (Emission Units 240, 241, 242, and 245)

number.

ii) The date the leak was detected and the dates of each attempt to repair the leak.
iii) Repair methods applied in each attempt to repair the leak.
iv) "Above 10,000" if the maximum instrument reading measured by the methods specified in Section 61.245(a) after each repair attempt is equal to or greater than 10,000 ppmv.
v) "Repair delayed" and the reason for the delay if a leak is not repaired within 15 calendar days after discovery of the leak.
vi) The signature of the owner or operator (or designate) whose decision it was that repair could not be effected without a process shutdown.
vii) The expected date of successful repair of the leak if a leak is not repaired within 15 calendar days.
viii) Dates of process unit shutdowns that occur while the equipment is unrepaired.
ix) The date of successful repair of the leak.

6. Specific Reporting Requirements:

Benzene Waste Operations

a. Pursuant to 40 CFR 61 Subpart FF, Section 61.357(c), the permittee shall submit an annual report updating the information specified in 40 CFR 61.357(a)(1) through (3). Report shall be submitted with the Annual Compliance Certification (Form DEP7007CC) to the Paducah Regional Office. If information is not changed from the previous year, a statement to that effect may be submitted.

b. Pursuant to 40 CFR 61 Subpart FF, Section 61.357(c), the permittee shall submit a report updating the information specified in 40 CFR 61.357(a)(1) through (3) whenever there is a change in the process generating the waste that could cause the total annual benzene quantity from facility waste to increase to 10 Mg/yr or greater.

6. Specific Reporting Requirements (Continued):

421/5312 240 Thermal Oxidizer and
240 Vent Sorb System

c. Pursuant to 401 KAR 50:055, Section 1(2), the permittee shall notify the Division's Paducah Regional Office in writing no later than 3 days before any planned shutdown and ensuing startup that will result in emissions exceeding the daily average standard. If the shutdown

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

240 BUILDING (Emission Units 240, 241, 242, and 245)

could not have been reasonably foreseen 3 days before the event, notification shall be given immediately following the decision to shut down. Notifications shall include all information specified in 401 KAR 50:055 Section 1(2).

d. Pursuant to 401 KAR 50:055, Section 1(3), if emissions during malfunctions, unplanned shutdowns or ensuing startups are or may result in emissions exceeding the daily average standard, the permittee shall notify the Division's Paducah Regional Office by telephone as promptly as possible and send a written notice if so requested. Such written notice shall include all information specified in 401 KAR 50:055 Section 1(3).

e. Pursuant to 40 CFR 61 Subpart Y, Section 61.275(e), the permittee shall submit Quarterly Excess Emission and Excursion Reports to the Division's Paducah Regional office for each calendar quarter. Reports shall identify each occurrence that results in excess emissions or excursion. Excess emissions are emissions that occur at any time when compliance with the specifications and requirements of 40 CFR 61.271(c) are not achieved, as evidenced by the monitored parameters specified below.

For the Thermal Oxidizer:

1) If the monitored oxidizer combustion temperature is greater than or equal to 1390° F, the oxidizer is evidenced to be achieving the required destruction efficiency.
2) When the monitored oxidizer combustion temperature drops below 1390 F for 15 minutes or longer, the permittee shall prepare a mathematical demonstration to determine the daily average weight percent benzene reduction for the 24-hour operating day inclusive of the incident. Pursuant to 40 CFR 61 Subpart A, Section 61.14(e), monitoring data recorded during periods of unavoidable monitoring system breakdowns, repairs, calibration checks, and zero and span adjustments shall not be included in any data average. If the calculated operating day average benzene destruction efficiency is greater than or equal to 95 weight percent, the oxidizer has been in compliance for the period in question. If the calculated daily average benzene destruction efficiency is less than 95 weight percent, excess emissions have occurred. The demonstration shall use the following destruction efficiencies:

6. Specific Reporting Requirements (Continued):

Combustion Temperature (Deg. F)	T range (minutes)	Benzene Destruction Efficiency (%)
≥1500	T1	100

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

240 BUILDING (Emission Units 240, 241, 242, and 245)

1400 ≥ T < 1500	T2	97
1390 ≥ T < 1400	T3	95
< 1390	T4	0

Control efficiency = (100 x ΣT1 + 97 x ΣT2 + 95 x ΣT3) / (ΣT1 + ΣT2 + ΣT3 + ΣT4)

For the Vent Sorb System:

3) The Vent Sorb System is evidenced to be achieving the required control efficiency if the following occurs: When the Vent Sorb system is being used to control emissions from the benzene storage vessels while the storage vessel levels are not raised, the permittee shall monitor the Vent Sorb outlet daily using Method 21 whenever the Vent Sorb unit has been in benzene abatement service for more than 80 hours. The first Method 21 monitoring shall occur within 8 hours of passing the 80 hours in-service time. If an instrument reading of 500 ppmv above background or greater is measured, then the carbon drum shall be changed within 8 hours.
4) If the Vent Sorb unit has been in benzene abatement service for more than 80 hours and Method 21 monitoring has not been performed within 8 hours of passing the 80 hour in-service time, then an excursion has occurred.
5) If Method 21 monitoring shows an instrument reading of 500 ppmv above background or greater and the carbon drum is not changed within 8 hours, then excess emissions have occurred.
6) If the Vent Sorb System is used to control emissions from the benzene storage vessels and the storage vessel level is raised, then excess emissions have occurred.

f. Pursuant to 40 CFR 61 Subpart Y, Section 61.275(e)(2) and (3), Quarterly Excess Emission and Excursion Reports shall as a minimum contain the following:
   1) Identification of the stack and other emission points where the excess emissions occurred;
   2) A statement of whether or not the owner or operator believes a control system malfunction has occurred;

6. <u>Specific Reporting Requirements</u> (Continued):

3) If the owner or operator states that a control system malfunction has occurred, the following information as a minimum is also to be included:
   i) Time and duration of the control system malfunction as determined by continuous monitoring data, or the inspection or monitoring done in accordance with the Operating Plan required by 40 CFR 61.271(c).
   ii) Cause of excess emissions.
4) All periods of excursion, an excursion is defined as any period of 15 minutes or longer where the combustion temperature is less than 1390° F, or any period when the Vent Sorb

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

240 BUILDING (Emission Units 240, 241, 242, and 245)

unit has been in benzene abatement service for more than 80 hours and Method 21 monitoring has not been performed within 8 hours of passing the 80 hour in-service time.

Fugitive VOC Components in Volatile HAP (Benzene) Service

g. Pursuant to 40 CFR 61 Subpart V, Section 61.247(b), the permittee shall submit semiannual reports to the Paducah Regional Office by July 28 and January 28 of each year. The permittee may shift to reporting to coincide with the compliance certification described in Section **F.5** upon approval of the regional office. The semiannual reports must contain the following information:
   1) Process unit identification.
   2) For each month during the semiannual reporting period:
      i) The number of valves for which leaks were detected as described in 40 CFR 61.242-7(b) and Section 61.243-2.
      ii) The number of valves for which leaks were not repaired as required in 40 CFR 61.242-7(d).
      iii) The number of pumps for which leaks were detected as described in 40 CFR 61.242-2(b) and (d)(6).
      iv) The number of pumps for which leaks were not repaired as required in 40 CFR 61.242-2(c) and (d)(6).
      v) The facts that explain any delay of repairs and, where appropriate, why a process unit shutdown was technically infeasible.
   3) Dates of process unit shutdowns which occurred within the semiannual reporting period.
   4) Revisions to items reported in the initial report required by 40 CFR61.247(a) if changes have occurred since the initial report or subsequent revisions to the initial report.
   5) The results of all performance tests and monitoring to determine compliance with no detectable emissions and with 40 CFR 61.243-1 and 40 CFR 61.243-2 conducted within the semiannual reporting period.

7. <u>Specific Control Equipment Operating Conditions</u>:

421/5312 240 Thermal Oxidizer

a. Pursuant to 40 CFR 61 Subpart A, Section 61.14(b), the permittee shall maintain and operate the oxidizer temperature monitoring system as specified in Subparts V and Y, and in a manner consistent with good air pollution control practices for minimizing emissions from the benzene product accumulator vessels and storage vessels. Any unavoidable breakdowns or malfunctions of the temperature monitoring system shall be repaired or adjusted as soon as

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

240 BUILDING (Emission Units 240, 241, 242, and 245)

practicable after its occurrence.

240 Vent Sorb System

b. Pursuant to 40 CFR 61 Subpart A, Section 61.14(b), the permittee shall maintain and operate the Vent Sorb Method 21 monitoring system as specified in 40 CFR 61 Subpart Y, and in a manner consistent with good air pollution control practices for minimizing emissions from the benzene storage vessels. Any unavoidable breakdowns or malfunctions of the Method 21 monitoring system shall be repaired or adjusted as soon as practicable after its occurrence.

8. Compliance Certification Requirements:

a. The specific emission points and specific process units which are subject to 40 CFR 63 Subpart FFFF requirements shall be defined in the Notification of Compliance Status report required below.

b. The permittee shall submit a notification of compliance status report addressing compliance with 40 CFR 63 Subpart FFFF. The report shall include each section of the regulation that is applicable and the method of compliance for all operating and emission limitations. Pursuant to 40 CFR 63.2520(d)(1), the report must be submitted no later than 150 days after the applicable compliance date specified in 63.2445.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

236 BUILDING (Emission Units 361, 362, 363, 364, 365, and 36F)

Major Process Equipment

Equipment ID	Description	Date Commenced
236/3004	Process tank (6,000 gal)	1987
236/3005	Process tank (6,000 gal)	1987
236/3006	Process tank (15,000 gal)	1987
236/3010	Water tank (25,000 gal)	1990
236/3234	Cyclone separator	1983
236/3285	Acid treatment tank (5,000 gal)	1992
236/3286	Acid treatment tank (5,000 gal)	1992
236/32xx	Product receiver (9,000 gal)	Proposed 2007
236/3304	Process tank	1967
236/3305	Process tank	1967
236/3306	Reactor (1,270 gal)	1967
236/3309	Process tank	1967
236/3311	Process tank	1967
236/3312	Process tank	1967
236/3315	Reactor (1,500 gal)	1985
236/3319	Reactor (1,900 gal)	1986
236/3320	Reactor (3,800 gal)	1987
236/3321	Reactor (1,900 gal)	1986
236/3322	Reactor (3,800 gal)	1985
236/3323	Reactor (3,000 gal)	1987
236/3324	Reactor (12,000 gal)	1987
236/3327	Reactor (3,800 gal)	1988
236/3328	Reactor (12,000 gal)	1988
236/3329	Reactor (3,000 gal)	1992
236/3330	Reactor (6,000 gal)	1992
236/3331	Reactor (3,200 gal)	1997
236/3332	Reactor (3,500 gal)	1997
236/3333	Reactor (3,500 gal)	1997
236/3401	Column	1970

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

236 BUILDING (Emission Units 361, 362, 363, 364, 365, and 36F)

Equipment ID	Description	Date Commenced
236/3501	Spray dryer (678 lb/hr batch average solids, 7.5 mmBtu/hr natural gas firing rate)	1967
236/3503	Spray dryer (651 lb/hr batch average solids, 7.5 mmBtu/hr natural gas firing rate)	1984
236/3504	Drum dryer	1987
236/3505	Drum dryer	1987
236/3506	Drum dryer	1987
236/3509	Drum dryer	1997
236/36104	Filter	1992
236/36105	Filter	1992
236/3701	Product recovery cyclone for dryer 3501	1967
236/3708	Product recovery cyclone for dryer 3503	1984

The above list is larger process equipment, not an inclusive list of equipment. Many smaller pieces of equipment are within the process unit such as charge pots, coolers, receivers, seal pots, condensers, etc.

361 236 BUILDING PROCESS VENT ORGANICS

01 **236 Building Process Vent Organics**
Controls: 240 Thermal Oxidizer 421/5312 (selected process vents)
Scrubber 236/5306 for Dryer 236/3501
Scrubber 236/5336 for Dryer 236/3503
Scrubber 236/3402
Scrubber 236/5375
None (other process vents)

362 DRYER 236/3501 – CYCLONE 236/3701 PROCESS PARTICULATE

01 **Dryer 236/3501 and Process Cyclone Process PM Emissions**
Controls: Scrubber 236/5306

363 DRYER 236/3501 NATURAL GAS COMBUSTION

01 **Dryer 236/3501 Combustion Product Emissions**
Controls: Scrubber 236/5306

364 DRYER 236/3503 – CYCLONE 236/3708 PROCESS PARTICULATE

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

236 BUILDING (Emission Units 361, 362, 363, 364, 365, and 36F)

01 **Dryer 236/3503 and Process Cyclone Process PM Emissions**
Controls: Scrubber 236/5336

365 DRYER 236/3503 NATURAL GAS COMBUSTION

01 **Dryer 236/3503 Combustion Product Emissions**
Controls: Scrubber 236/5336

36F 236 BUILDING FUGITIVE EMISSIONS

01 **236 Building Fugitive VOC**
Controls: None

02 **236 Building Fugitive HAP**
Controls: None

APPLICABLE REGULATIONS:
401 KAR 50:055, General Compliance Requirements.

401 KAR 59:005, General Provisions.

401 KAR 59:010, New Process Operations constructed after July 2, 1975.

401 KAR 61:020, Existing Process Operations constructed prior to July 2, 1975.

401 KAR 63:002, incorporating by reference 40 CFR Part 63 Subpart FFFF, National Emission Standards for Hazardous Air Pollutants: Miscellaneous Organic Chemical Manufacturing. The facility must comply with the requirements for existing sources no later than May 10, 2008.

NON-APPLICABLE REGULATIONS:
401 KAR 51:017, Prevention of Significant Deterioration of Air Quality (PSD) does not apply to the Drum Dryer 236/3506. The permittee has accepted record keeping requirements to preclude the applicability of PSD for VOC due to a change in method of operation of this equipment.

401 KAR 63:002, incorporating by reference 40 CFR 63 Subparts F, G, and H. 40 CFR 63.100(b)(1) – The chemical manufacturing process unit(s) are not subject to 40 CFR 63 Subparts F, G, or H since the unit(s) do not manufacture as a primary product a chemical listed in Table 1 of Subpart F.

NON-APPLICABLE REGULATIONS (Continued):

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

236 BUILDING (Emission Units 361, 362, 363, 364, 365, and 36F)

401 KAR 60:005, incorporating by reference 40 CFR 60 Subpart VV. Equipment in the process unit(s) are not an affected facility under Subpart VV since the process unit(s) do not produce, as an intermediate or final product, a chemical listed in 40 CFR 60.489.

401 KAR 60:005, incorporating by reference 40 CFR 60 Subpart RRR. Reactor processes are exempt from 40 CFR 60 Subpart RRR since 40 CFR 60.700(c)(1) exempts reactor processes designed and operated as a batch operation.

1. Operating Limitations:
None

2. Emission Limitations:

236/3701 Cyclone for Dryer 236/3501 (controlled by Scrubber 236/5306)

a. Pursuant to 401 KAR 61:020, Section 3(2)(a), maximum particulate emissions shall not exceed 2.58 lbs/hr, except as follows: pursuant to 401 KAR 50:055, Section 1(1), emissions due to shutdown or malfunctions which temporarily exceed the standard shall not be deemed in violation of such standards if the requirements of 401 KAR 50:055, Sections 1(2) and 1(3) are satisfied, and the Director makes the determinations specified in Section 1(4).

Compliance Demonstration Method:
Compliance is averaged over a period that covers a complete operation of the batch process and is demonstrated by an emission factor of 13 lbs PM_t/ton of material dried, a maximum capacity of 0.34 tons of material dried/hr, and 90% control efficiency.
Based on the following formula,

PM_t emissions (lbs/hr) = (processing rate)*(emission factor)*(1 – %CE)

where PM_t = Total Particulate Matter
%CE = Control Efficiency

the particulate emissions are less than the 401 KAR 61:020 Section 3(2) allowable emission rate. Monthly visual observations, as specified in **4. Specific Monitoring Requirements** below, will be performed to indicate proper operation of the air pollution control equipment.

b. As Scrubber 236/5306 is a common control system for new and existing equipment, visible emissions shall not equal or exceed 20% opacity, except as follows:
1) Pursuant to 401 KAR 50:055, Section 2(4), the opacity standard does not apply during periods of startup and shutdown; and

2. Emission Limitations (Continued):

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

236 BUILDING (Emission Units 361, 362, 363, 364, 365, and 36F)

2) Pursuant to 401 KAR 50:055, Section 1(1), visible emissions due to shutdown or malfunctions which temporarily exceed the standard shall not be deemed in violation of such standards if the requirements of 401 KAR 50:055, Sections 1(2) and 1(3) are satisfied, and the Director makes the determinations specified in Section 1(4).

Compliance Demonstration Method:
Monthly visual observations as specified in **4. Specific Monitoring Requirements** and **5. Specific Record Keeping Requirements** below.

236/3708 Cyclone for Dryer 236/3503 (controlled by Scrubber 236/5336)

c. Pursuant to 401 KAR 59:010, Section 3(2), particulate emissions shall not exceed 2.34 lbs/hr, except as follows: pursuant to 401 KAR 50:055, Section 1(1), emissions due to shutdown or malfunctions which temporarily exceed the standard shall not be deemed in violation of such standards if the requirements of 401 KAR 50:055, Sections 1(2) and 1(3) are satisfied, and the Director makes the determinations specified in Section 1(4).

Compliance Demonstration Method:
Compliance is averaged over a period that covers a complete operation of the batch process and is demonstrated by an emission factor of 13.54 lbs PM_t/ton of material dried, a maximum capacity of 0.33 tons of material dried/hr, and 90% control efficiency.
Based on the following formula,

PM_t emissions (lbs/hr) = (processing rate)*(emission factor)*(1 – %CE)

where PM_t = Total Particulate Matter
%CE = Control Efficiency

the particulate emissions are less than the 401 KAR 59:010 Section 3(2) allowable emission rate. Monthly visual observations, as specified in **4. Specific Monitoring Requirements** below, will be performed to indicate proper operation of the air pollution control equipment.

d. Pursuant to 401 KAR 59:010, Section 3(1)(a), visible emissions shall not equal or exceed 20% opacity, except as follows:
1) Pursuant to 401 KAR 50:055, Section 2(4), the opacity standard does not apply during periods of startup and shutdown; and
2) Pursuant to 401 KAR 50:055, Section 1(1), visible emissions due to shutdown or malfunctions which temporarily exceed the standard shall not be deemed in violation of such standards if the requirements of 401 KAR 50:055, Sections 1(2) and 1(3) are satisfied, and the Director makes the determinations specified in Section 1(4).

2. Emission Limitations(Continued):

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

236 BUILDING (Emission Units 361, 362, 363, 364, 365, and 36F)

Compliance Demonstration Method:
Monthly visual observations as specified in **4. Specific Monitoring Requirements** and **5. Specific Record Keeping Requirements** below.

236/3506 Drum Dryer

e. Actual emissions from the 236/3506 Drum Dryer shall not exceed 36 ton/yr. [To preclude applicability of PSD for VOC]

Compliance Demonstration Method:
Refer to **Specific Recordkeeping Requirements 5.e** below.

3. Testing Requirements:
None

4. Specific Monitoring Requirements:

236/3701 Cyclone for Dryer 236/3501
236/3708 Cyclone for Dryer 236/3503

The permittee shall perform qualitative monthly visual observations of the control device or stack. If visible emissions are observed, then:
a. The permittee shall correct the problem (as indicated by another visual observation showing no visible emissions), or
b. The permittee shall perform an EPA Method 9 test.

5. Specific Recordkeeping Requirements:

236/3701 Cyclone for Dryer 236/3501
236/3708 Cyclone for Dryer 236/3503

a. Retain records of the results of the monthly visual observations. The records shall include the date of the observation, and whether any visible emissions were observed. If a visual observation was not performed, the reason for not performing it shall also be recorded.
If visible emissions are observed, then the following additional records shall be retained:
1) The actions taken to correct the problem, and result of the subsequent visual observation showing no visible emissions, or
2) The results of the Reference Method 9 opacity test.

5. Specific Recordkeeping Requirements (Continued):

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

236 BUILDING (Emission Units 361, 362, 363, 364, 365, and 36F)

b. Pursuant to 401 KAR 59:005, Section 3(2) or 401 KAR 50:055, Section 2(5), the permittee shall record and retain records of the occurrence and duration of any startup, shutdown, or malfunction in the operation of each scrubber.

c. During all periods of malfunction of any of the scrubbers, if any of the emission units are operating and visible emissions are observed, a log with records every four (4) hours of the following information shall be kept:
   1) Results from a Reference Method 9 observation;
   2) Whether the visible emissions were normal for the process.
   3) The color of the emissions and whether the emissions were light or heavy.
   4) The cause of the abnormal visible emissions; and
   5) Any corrective actions taken.

d. All maintenance activities performed at the scrubbers.

236/5306 Drum Dryer

e. Pursuant to 401 KAR 51:017, Section 16 (5)(c)2.b, the permittee shall calculate and maintain a record of actual emissions, in tons per year on a calendar year basis, of VOC from the drum dryer. Calculations shall be performed and records retained for ten years following the change. The calculations shall be used to document that actual emissions are less than the 36 ton/yr projected actual emission rate used to demonstrate non-applicability of 401 KAR 51:017.

6. Specific Reporting Requirements:

a. Refert to Section **F.7** for reporting to the Paducah Regional Office.

b. Pursuant to 401 KAR 59:005, Section 3(1)(d) or KRS 224.10-100 (19), the Paducah Regional Office shall be notified of any modification (as defined in 401 KAR 59:001) to this affected facility. This notice shall be postmarked 60 days or as soon as practicable before the change is commenced and shall include information describing the precise nature of the change, present and proposed emission control systems, productive capacity of the facility before and after the change, and the expected completion date of the change. The Cabinet may request additional relevant information subsequent to this notice.

7. Specific Control Equipment Operating Conditions:

None

8. Compliance Certification Requirements:

a. The specific emission points and specific process units which are subject to 40 CFR 63 Subpart FFFF requirements shall be defined in the Notification of Compliance Status report required below.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

236 BUILDING (Emission Units 361, 362, 363, 364, 365, and 36F)

8. Compliance Certification Requirements (Continued):

b. The permittee shall submit a notification of compliance status report addressing compliance with 40 CFR 63 Subpart FFFF. The report shall include each section of the regulation that is applicable and the method of compliance for all operating and emission limitations. Pursuant to 40 CFR 63.2520(d)(1), the report must be submitted no later than 150 days after the applicable compliance date specified in 63.2445.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

315 BUILDING (Emission Units 151, 152, and 153)

Major Process Equipment

Equipment ID	Description	Date Commenced
315/3006	Process tank	1962
315/3007	Process tank	1962
315/3301	Reactor (4,000 gal)	1957
315/3302	Reactor (4,000 gal)	1957
315/3303	Reactor (4,000 gal)	1957
315/3304	Reactor (4,000 gal)	1957
315/3305	Process tank (8,000 gal)	1956
315/3306	Reactor (4,500 gal)	1990
315/3307	Reactor (4,000 gal)	1975
315/3308	Process tank (8,000 gal)	1960
315/3310	Dryer	1963
315/3311	Dryer	1963
315/3312	Reactor (2,500 gal)	1964
315/3313	Process tank (5,000 gal)	1964
315/3315	Reactor (4,500 gal)	1986
315/3404	Distillation column	1994
315/3504	Evaporator	1975
315/3710	Packaging bin	1992

The above list is larger process equipment, not an inclusive list of equipment. Many smaller pieces of equipment are within the process unit such as charge pots, coolers, receivers, seal pots, condensers, etc.

151 315 BUILDING PROCESS VENT ORGANICS

01 **315 Building Process Vent Organics**
Controls: 315 Thermal Oxidizer 421/5311 (selected process vents)
None (other process vents)

152 315 THERMAL OXIDIZER PRODUCTS OF COMBUSTION

01 **315 Thermal Oxidizer Combustion Product Emissions**
Controls: None

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

315 BUILDING (Emission Units 151, 152, and 153)

153 315 BUILDING FUGITIVE EMISSIONS

01 **315 Building Fugitive VOC**
Controls: None

02 **315 Building Fugitive HAP**
Controls: None

APPLICABLE REGULATIONS:
401 KAR 63:002, incorporating by reference 40 CFR Part 63 Subpart FFFF, National Emission Standards for Hazardous Air Pollutants: Miscellaneous Organic Chemical Manufacturing. The facility must comply with the requirements for existing sources no later than May 10, 2008.

NON-APPLICABLE REGULATIONS:
401 KAR 63:002, incorporating by reference 40 CFR 63 Subparts F, G, and H does not apply to 315 Building. 40 CFR 63.100(b)(1) – The chemical manufacturing process unit(s) are not subject to 40 CFR 63 Subparts F, G, or H since the unit(s) do not manufacture as a primary product a chemical listed in Table 1 of Subpart F.

401 KAR 60:005, incorporating by reference 40 CFR 60 Subpart VV does not apply to 315 Building. Equipment in the process unit(s) are not an affected facility under Subpart VV since the process unit(s) do not produce, as an intermediate or final product, a chemical listed in 40 CFR 60.489.

401 KAR 60:005, incorporating by reference 40 CFR 60 Subpart RRR does not apply. Reactor processes are exempt from 40 CFR 60 Subpart RRR since 40 CFR 60.700(c)(1) exempts reactor processes designed and operated as a batch operation.

401 KAR 60:005, incorporating by reference 40 CFR 60 Subpart NNN does not apply. Distillation units are exempt from 40 CFR 60 Subpart NNN since 40 CFR 60.660(c)(3) exempts distillation units that are designed and operated as a batch operation.

1. **Operating Limitations**:
None

2. **Emission Limitations**:
None

3. **Testing Requirements:**
None

4. **Specific Monitoring Requirements**:
None

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

315 BUILDING (Emission Units 151, 152, and 153)

5. Specific Recordkeeping Requirements:
None

6. Specific Reporting Requirements:
None

7. Specific Control Equipment Operating Conditions:
None

8. Compliance Certification Requirements:

a. The specific emission points and specific process units which are subject to 40 CFR 63 Subpart FFFF requirements shall be defined in the Notification of Compliance Status report required below.

b. The permittee shall submit a notification of compliance status report addressing compliance with 40 CFR 63 Subpart FFFF. The report shall include each section of the regulation that is applicable and the method of compliance for all operating and emission limitations. Pursuant to 40 CFR 63.2520(d)(1), the report must be submitted no later than 150 days after the applicable compliance date specified in 63.2445.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

200 BUILDING (Emission Units 001, 002, 003, 004, and 005)

Major Process Equipment

Equipment ID	Description	Date Commenced
200/3301	Reactor (1,000 gal)	1956
200/3302	Reactor (1,000 gal)	1956
200/3303	Reactor (4,000 gal)	1966
200/3304	Reactor (4,000 gal)	1966
200/3501	Steam spray dryer (740 lb/hr batch average solids)	Modified 1998
200/3502	Gas spray dryer (740 lb/hr batch average solids, 11 mmBtu/hr natural gas firing rate)	Modified 1997
200/3701	Primary cyclone process collector for steam spray dryer	1955
200/3702	Primary cyclone process collector for steam spray dryer	1955
200/3705	Primary cyclone process collector for gas spray dryer	1964
200/3717	Secondary cyclone process collector for steam spray dryer	1988
200/3718	Secondary cyclone process collector for gas spray dryer	1993

The above list is larger process equipment, not an inclusive list of equipment. Many smaller pieces of equipment are within the process unit such as charge pots, coolers, receivers, seal pots, condensers, etc.

001 200 BUILDING PROCESS VENT ORGANICS

01 **200 Building Process Vent Organics**
Controls: None

002 STEAM SPRAY DRYER AND CYCLONE COLLECTORS PROCESS PARTICULATE

01 **Dryer 200/3501 and Process Cyclones Process PM Emissions**
Controls: Baghouse 200/3641

003 GAS SPRAY DRYER AND CYCLONE COLLECTORS PROCESS PARTICULATE

01 **Dryer 200/3502 and Process Cyclones Process PM Emissions**
Controls: Venturi Scrubber 200/5369

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

200 BUILDING (Emission Units 001, 002, 003, 004, and 005)

004 GAS SPRAY DRYER NATURAL GAS COMBUSTION

01 **Dryer 200/3502 Combustion Product Emissions**
Controls: Venturi Scrubber 200/5369

005 200 BUILDING FUGITIVE EMISSIONS

01 **200 Building Fugitive VOC**
Controls: None

APPLICABLE REGULATIONS:
401 KAR 50:055, General Compliance Requirements.

401 KAR 59:005, General Provisions.

401 KAR 59:010, New Process Operations constructed after July 2, 1975.

40 CFR 64, Compliance Assurance Monitoring (CAM), applies to the 200 Gas Spray Dryer and the control of particulate matter by the Venturi Scrubber 200/5369.

401 KAR 63:002, incorporating by reference 40 CFR Part 63 Subpart FFFF, National Emission Standards for Hazardous Air Pollutants: Miscellaneous Organic Chemical Manufacturing. The facility must comply with the requirements for existing sources no later than May 10, 2008.

NON-APPLICABLE REGULATIONS:
401 KAR 63:002, incorporating by reference 40 CFR 63 Subparts F, G, and H does not apply to 200 Building. 40 CFR 63.100(b)(1) – The chemical manufacturing process unit(s) are not subject to 40 CFR 63 Subparts F, G, or H since the unit(s) do not manufacture as a primary product a chemical listed in Table 1 of Subpart F.

401 KAR 60:005, incorporating by reference 40 CFR 60 Subpart VV does not apply to 200 Building. Equipment in the process unit(s) are not an affected facility under Subpart VV since the process unit(s) do not produce, as an intermediate or final product, a chemical listed in 40 CFR 60.489.

401 KAR 60:005, incorporating by reference 40 CFR 60 Subpart RRR does not apply. Reactor processes are exempt from 40 CFR 60 Subpart RRR since 40 CFR 60.700(c)(1) exempts reactor processes designed and operated as a batch operation.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

200 BUILDING (Emission Units 001, 002, 003, 004, and 005)

1. Operating Limitations:
None

2. Emission Limitations:

Cyclones 200/3701, 200/3702, and 200/3717 (Central Vacuum System for Steam Spray Dryer 200/3501)
Cyclones 200/3705, 200/3712, and 200/3718 (Central Vacuum System for Gas Spray Dryer 200/3502)

a. Pursuant to 401 KAR 59:010, Section 3(2), the maximum particulate emissions shall not exceed 2.34 lbs/hr, except as follows: pursuant to 401 KAR 50:055, Section 1(1), emissions due to shutdown or malfunctions which temporarily exceed the standard shall not be deemed in violation of such standards if the requirements of 401 KAR 50:055, Sections 1(2) and 1(3) are satisfied, and the Director makes the determinations specified in Section 1(4).

Compliance Demonstration Method:
For the Central Vacuum System for Steam Spray Dryer 200/3501, compliance is averaged over a period that covers a complete operation of the batch process and is demonstrated by an emission factor of 30.6 lbs PM_t/ton of material dried, a maximum capacity of 0.37 tons of material dried/hr, and 99% control efficiency. For the Central Vacuum System for Steam Spray Dryer 200/3502, compliance is averaged over a period that covers a complete operation of the batch process and is demonstrated by an emission factor of 82 lbs PM_t/ton of material dried, a maximum capacity of 0.37 tons of material dried/hr, and 96% control efficiency.

Based on the following formula,

PM_t emissions (lbs/hr) = (processing rate)*(emission factor)*(1 – %CE)

where PM_t = Total Particulate Matter
%CE = Control Efficiency

the particulate emissions are less than the 401 KAR 59:010 Section 3(2) allowable emission rate. Monthly visual observations, as specified in **4. Specific Monitoring Requirements** below, will be performed to indicate proper operation of the air pollution control equipment.

b. Pursuant to 401 KAR 59:010, Section 3(1)(a), visible emissions shall not equal or exceed 20% opacity, except as follows:
1) Pursuant to 401 KAR 50:055, Section 2(4), the opacity standard does not apply during periods of startup and shutdown; and

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

200 BUILDING (Emission Units 001, 002, 003, 004, and 005)

2. Emission Limitations (Continued):

2) Pursuant to 401 KAR 50:055, Section 1(1), visible emissions due to shutdown or malfunctions which temporarily exceed the standard shall not be deemed in violation of such standards if the requirements of 401 KAR 50:055, Sections 1(2) and 1(3) are satisfied, and the Director makes the determinations specified in Section 1(4).

Compliance Demonstration Method:
Monthly visual observations as specified in **4. Specific Monitoring Requirements** and **5. Specific Record Keeping Requirements** below.

3. Testing Requirements:

None

4. Specific Monitoring Requirements:

Baghouse 200/3641

a. For purposes of demonstrating continuing compliance with the opacity and particulate emission limits contained in 401 KAR 59:010, the permittee shall monitor and maintain daily records of the pressure drop across the baghouse, and perform annual visual inspections of the filter material.

Venturi Scrubber 200/5369

b. For purposes of demonstrating continuing compliance with the opacity and particulate emission limits contained in 401 KAR 59:010, the permittee shall monitor and maintain daily records of the water pressure drop across the scrubber.

c. The following procedures are included in the Compliance Assurance Monitoring (CAM) plan, pursuant to 40 CFR 64:
   1) The pressure drop across the scrubber is measured with a differential pressure gauge.
   2) The minimum pressure drop is 4.0 inches of water as a 12-hour average. An excursion is defined as a 12-hour average pressure drop outside this range. Excursions trigger an inspection, corrective action, and a reporting requirement.
   3) Pressure taps are located at the inlet and outlet of the venture scrubber.
   4) The pressure gauges are calibrated manually.
   5) The diferential pressure drop across the venture scrubber is electronically recorded.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

200 BUILDING (Emission Units 001, 002, 003, 004, and 005)

4. Specific Monitoring Requirements (Continued):

Cyclones 200/3701, 200/3702, and 200/3717 (Central Vacuum System for Steam Spray Dryer 200/3501)
Cyclones 200/3705, 200/3712, and 200/3718 (Central Vacuum System for Gas Spray Dryer 200/3502)

d. The permittee shall perform and maintain records of qualitative monthly visual observations of the control device or stack. If visible emissions are observed, then:
   1) The permittee shall correct the problem (as indicated by another visual observation showing no visible emissions), or
   2) The permittee shall perform and maintain records of an EPA Method 9 test.

5. Specific Recordkeeping Requirements:

a. The permittee shall maintain records of the specific monitoring of control equipment and visual inspections, refer to **4. Specific Monitoring Requirements**.

Cyclones 200/3701, 200/3702, and 200/3717 (Central Vacuum System for Steam Spray Dryer 200/3501) controlled by Baghouse
Cyclones 200/3705, 200/3712, and 200/3718 (Central Vacuum System for Gas Spray Dryer 200/3502) controlled by Venturi Scrubber

b. Pursuant to 401 KAR 59:005, Section 3(2), the permittee shall record and retain records of the occurrence and duration of any startup, shutdown, or malfunction in the operation of the affected facilities, and any malfunction of the air pollution control devices.

6. Specific Reporting Requirements:

a. Refer to Section **F.7**, **F.8**, and **F.9**.

b. Pursuant to 401 KAR 59:005, Section 3(1)(d) or KRS 224.10-100 (19), the Paducah Regional Office shall be notified of any modification (as defined in 401 KAR 59:001) to this affected facility. This notice shall be postmarked 60 days or as soon as practicable before the change is commenced and shall include information describing the precise nature of the change, present and proposed emission control systems, productive capacity of the facility before and after the change, and the expected completion date of the change. The Cabinet may request additional relevant information subsequent to this notice.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

200 BUILDING (Emission Units 001, 002, 003, 004, and 005)

7. Specific Control Equipment Operating Conditions:

Baghouse 200/3641
Venturi Scrubber 200/5369

a. The baghouse and Venturi Scrubber shall control particulate emissions and be operated in accordance with manufacturer's specifications and/or standard operating procedures at all times any of the emissions units listed above are in operation.

b. The scrubber shall operate at a minimum of 4.0 inches water pressure drop. (12-hour average). [40 CFR Part 64]

8. Compliance Certification Requirements:

a. The specific emission points and specific process units which are subject to 40 CFR 63 Subpart FFFF requirements shall be defined in the Notification of Compliance Status report required below.

b. The permittee shall submit a notification of compliance status report addressing compliance with 40 CFR 63 Subpart FFFF. The report shall include each section of the regulation that is applicable and the method of compliance for all operating and emission limitations. Pursuant to 40 CFR 63.2520(d)(1), the report must be submitted no later than 150 days after the applicable compliance date specified in 63.2445.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

334 BUILDING (Emission Unit 341)

Major Process Equipment

Equipment ID	Description	Date Commenced
334/3506	Reactor #1	1989
334/3507	Reactor #2	1988
334/3715	Surge hopper	1988
334/3716	Product recovery cyclone for blender 3717 (650.5 lb/hr batch average process weight)	1988
334/3717	Ribbon blender	1988

The above list is larger process equipment, not an inclusive list of equipment. Many smaller pieces of equipment are within the process unit such as charge pots, coolers, receivers, seal pots, condensers, etc.

341 334 BUILDING PROCESS VENTS

01 **334 Building Process Vent Emissions**
Controls: Scrubber 334/3231 for product recovery cyclone 334/3716
None for other vents

APPLICABLE REGULATIONS:

401 KAR 50:055, General Compliance Requirements.

401 KAR 59:005, General Provisions.

401 KAR 59:010, New Process Operations constructed after July 2, 1975.

NON-APPLICABLE REGULATIONS:
401 KAR 63:002, incorporating by reference 40 CFR 63 Subparts F, G, and H does not apply to 334 Building. 40 CFR 63.100(b)(1) – The chemical manufacturing process unit(s) are not subject to 40 CFR 63 Subparts F, G, or H since the unit(s) do not manufacture as a primary product a chemical listed in Table 1 of Subpart F.

401 KAR 63:002, incorporating by reference 40 CFR 63 Subpart FFFF. 40 CFR 63.2435(b)(2) - Process unit(s) do not process, use, or generate any of the organic HAP listed in Section 112(b) of the CAA or hydrogen halide and halogen HAP.

401 KAR 60:005, incorporating by reference 40 CFR 60 Subpart VV does not apply to 334 Building. Equipment in the process unit(s) are not an affected facility under Subpart VV since the process unit(s) do not produce, as an intermediate or final product, a chemical listed in 40 CFR 60.489.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

334 BUILDING (Emission Unit 341)

NON-APPLICABLE REGULATIONS (Continued):
401 KAR 60:005, incorporating by reference 40 CFR 60 Subpart RRR does not apply. Reactor processes are exempt from 40 CFR 60 Subpart RRR since 40 CFR 60.700(c)(1) exempts reactor processes designed and operated as a batch operation.

1. Operating Limitations:
None

2. Emission Limitations:

Product Recovery Cyclone 334/3716
(Controlled by 334/3231 Scrubber)

a. Pursuant to 401 KAR 59:010, Section 3(2), the maximum particulate emissions shall not exceed 2.34 lbs/hr, except as follows:

Pursuant to 401 KAR 50:055, Section 1(1), particulate emissions due to shutdown or malfunctions which temporarily exceed standard shall not be deemed in violation of such standards if the requirements of 401 KAR 50:055, Sections 1(2) and 1(3) are satisfied, and the Director makes the determinations specified in Section 1(4).

Compliance Demonstration Method:
The permittee shall retain initial permit calculations or test results that indicating that particulate emissions are less than the 401 KAR 59:010 allowable emission rate averaged over a period that covers a complete operation of the batch process.

b. Pursuant to 401 KAR 59:010, Section 3(1)(a), visible emissions shall not equal or exceed 20% opacity, except as follows:
   1) Pursuant to 401 KAR 50:055, Section 2(4), the opacity standard does not apply during periods of startup and shutdown; and
   2) Pursuant to 401 KAR 50:055, Section 1(1), visible emissions due to shutdown or malfunctions which temporarily exceed the standard shall not be deemed in violation of such standards if the requirements of 401 KAR 50:055, Sections 1(2) and 1(3) are satisfied, and the Director makes the determinations specified in Section 1(4).

Compliance Demonstration Method:
1) Compliance is demonstrated during normal operation of the cyclone and scrubber.
2) If blender 334/3717 is in operation during any period of malfunction of the cyclone or the scrubber, the permittee shall determine compliance through maintenance of the records required by Item c. under **5. Specific Recordkeeping Requirements** below.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

334 BUILDING (Emission Unit 341)

3. Testing Requirements:
None

4. Specific Monitoring Requirements:
None

5. Specific Recordkeeping Requirements:

Product Recovery Cyclone 334/3716
(Controlled by 334/3231 Scrubber)

a. The permittee shall retain initial permit calculations or test results that indicating that particulate emissions are less than the 401 KAR 59:010 allowable emission rate.

b. Pursuant to 401 KAR 59:005, Section 3(2), the permittee shall record and retain records of the occurrence and duration of any startup, shutdown, or malfunction in the operation of the process equipment or air pollution control equipment.

c. During all periods of malfunction of the scrubber or cyclone, if blender 334/3717 is in operation and visible emissions are observed, a log with records every four (4) hours of the following information shall be kept:
   1) Results from a Reference Method 9 observation;
   2) Whether the visible emissions were normal for the process;
   3) The color of the emissions and whether the emissions were light or heavy;
   4) The cause of the abnormal visible emissions; and
   5) Any corrective actions taken.

334/3231 Scrubber

d. The permittee shall record and retain records of maintenance performed on the scrubber.

6. Specific Reporting Requirements:
a. Refer to Section **F.7**, **F.8**, and **F.9**.

b. Pursuant to 401 KAR 59:005, Section 3(1)(d), the Paducah Regional Office shall be notified of any modification (as defined in 401 KAR 59:001) to this affected facility. This notice shall be postmarked 60 days or as soon as practicable before the change is commenced and shall include information describing the precise nature of the change, present and proposed emission control systems, productive capacity of the facility before and after the change, and the expected completion date of the change. The Cabinet may request additional relevant information subsequent to this notice.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

334 BUILDING (Emission Unit 341)

7. Specific Control Equipment Operating Conditions:
None

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

HIGHER VINYL ETHERS (HVE) UNIT (Emission Units 261 and 262)

Major Process Equipment

Equipment ID	Description	Date Commenced
326/3301	Prep kettle	1956
326/3302	Reactor A	1956
326/3303	Reactor B	1962

The above list is larger process equipment, not an inclusive list of equipment. Many smaller pieces of equipment are within the process unit such as charge pots, coolers, receivers, seal pots, condensers, etc.

261 HIGHER VINYL ETHERS (HVE) UNIT PROCESS VENT EMISSIONS

01 **HVE Unit Process Vent Emissions**
Controls: None

02 **HVE Unit Process Vent Emissions**
Controls: Flare 421/5310

262 HIGHER VINYL ETHERS (HVE) UNIT FUGITIVE EMISSIONS

01 **HVE Unit Fugitive VOC**
Controls: None

APPLICABLE REGULATIONS:
401 KAR 50:055, General Compliance Requirements.

401 KAR 63:015, Flares.

401 KAR 63:002, incorporating by reference 40 CFR Part 63 Subpart FFFF, National Emission Standards for Hazardous Air Pollutants: Miscellaneous Organic Chemical Manufacturing. The facility must comply with the requirements for existing sources no later than May 10, 2008.

NON-APPLICABLE REGULATIONS:
401 KAR 63:002, incorporating by reference 40 CFR 63 Subparts F, G, and H does not apply to the HVE Unit. 40 CFR 63.100(b)(1) – The chemical manufacturing process unit(s) are not subject to 40 CFR 63 Subparts F, G, or H since the unit(s) do not manufacture as a primary product a chemical listed in Table 1 of Subpart F.

401 KAR 60:005, incorporating by reference 40 CFR 60 Subpart VV does not apply to the HVE Unit. Equipment in the process unit(s) are not an affected facility under Subpart VV since the process unit(s) do not produce, as an intermediate or final product, a chemical listed in 40 CFR 60.489.

NON-APPLICABLE REGULATIONS (Continued):

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

HIGHER VINYL ETHERS (HVE) UNIT (Emission Units 261 and 262)

401 KAR 60:005, incorporating by reference 40 CFR 60 Subpart RRR. Reactors are not an affected facility under Subpart RRR since the process unit(s) do not produce, as a product, co-product, by-product, or intermediate a chemical listed in 40 CFR 60.707.

1. Operating Limitations:
None

2. Emission Limitations:
Pursuant to 401 KAR 63:015, Section 3, visible emissions shall not exceed 20% opacity for more than three minutes in any one day, except as follows:

a. Pursuant to 401 KAR 50:055, Section 1(1), emissions due to shutdown or malfunctions which temporarily exceed the opacity standard shall not be deemed in violation of such standards if the requirements of 401 KAR 50:055, Sections 1(2) and 1(3) are satisfied, and the Director makes the determinations specified in Section 1(4).
b. Pursuant to 401 KAR 50:055, Section 2(4), the opacity standard does not apply during periods of startup and shutdown.

Compliance Demonstration Method:
Refer to **3. Testing Requirements** below.

3. Testing Requirements:
The permittee shall perform an EPA Method 9 if at any time emissions are seen and/or the Division requests it.

4. Specific Monitoring Requirements:
None

5. Specific Recordkeeping Requirements:
If visible emissions are observed, then the following additional records shall be retained:

a. The actions taken to correct the problem, and result of the subsequent visual observation showing no visible emissions, or
b. The results of the Reference Method 9 opacity test.

6. Specific Reporting Requirements:
None

7. Specific Control Equipment Operating Conditions:
None

8. Compliance Certification Requirements:

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

HIGHER VINYL ETHERS (HVE) UNIT (Emission Units 261 and 262)

a. The specific emission points and specific process units which are subject to 40 CFR 63 Subpart FFFF requirements shall be defined in the Notification of Compliance Status report required below.

b. The permittee shall submit a notification of compliance status report addressing compliance with 40 CFR 63 Subpart FFFF. The report shall include each section of the regulation that is applicable and the method of compliance for all operating and emission limitations. Pursuant to 40 CFR 63.2520(d)(1), the report must be submitted no later than 150 days after the applicable compliance date specified in 63.2445.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

RILEY BOILER (Emission Unit OAA)

0AA RILEY BOILER 115/5307
Rated capacity 139 mmBtu/hr heat input
Commenced 1964
Coal and Comparable Fuels Fired

01 **Riley – Coal w/o NH3 Injection**
Controls: Multi-cyclone 115/3704
Baghouse 115/3601

02 **Riley – Coal with NH3 Injection**
Controls: Multi-cyclone 115/3704
Baghouse 115/3601

03 **Riley – Comparable Fuels**
Controls: Multi-cyclone 115/3704
Baghouse 115/3601

Note: An ammonia laden gas stream from the 211 and 222 pyrrolidone units stripper is also combusted in this unit. Different mixes of coal and/or ammonia and/or comparable fuels are burned at any given time.

APPLICABLE REGULATIONS:
401 KAR 50:055, General Compliance Requirements.

401 KAR 51:017, Prevention of Significant Deterioration of Air Quality (PSD) applies to the combustion of ammonia laden gas from the 211 and 222 pyrrolidone units stripper.

401 KAR 61:015, Existing Indirect Heat Exchangers constructed prior to April 9, 1972.

40 CFR 64, Compliance Assurance Monitoring (CAM), applies to the Riley boiler for particulate matter.

40 CFR 261, Identification and Listing of Hazardous Waste.

1. Operating Limitations:

a. The Comparable Fuels stream burned shall comply with the Comparable/Syngas Fuels Exclusion (40 CFR 261.38).

Compliance Demonstration Method:
Permittee shall maintain records of all Comparable fuels burned in the Riley Boiler.

b. Pursuant to 401 KAR 51:017, injection of the waste gas shall be at the same location in the coal combustion zone as during the source's last performance test.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

RILEY BOILER (Emission Unit OAA)

1. Operating Limitations (Continued):

Compliance Demonstration Method:
Records of the yearly inspections of the waste gas injection system.

c. Pursuant to 401 KAR 50:045 Section 5(2), daily average steam production shall not exceed 110% of the production rate of the most current Division monitored performance test. {At time of permit issuance, last testing was November 13, 2003}

2. Emission Limitations:

a. Pursuant to 401 KAR 61:015, Section 4(1), particulate emissions shall not exceed 0.25 lb/mmBtu, except as follows:

Pursuant to 401 KAR 50:055, Section 1(1), particulate emissions due to shutdown or malfunctions which temporarily exceed the standard shall not be deemed in violation of such standards if the requirements of 401 KAR 50:055, Sections 1(2) and 1(3) are satisfied, and the Director makes the determinations specified in Section 1(4).

Compliance Demonstration Method:
Maintain records and calculate monthly average emission rates upon request, as follows:

lb PM/mmBtu = {(EFCoal x Tons Coal) + (EFCF x 10^3 Gals CF) x {1 - Efficiency/100} ÷ {(HVCoal x Tons Coal) + (HVCF x 10^3 Gals CF)}

where: EFCoal = coal emission factor of 56 lb PM/ton coal or the measured value from the last emissions test.
Tons Coal = total tons of coal burned during the month.
EFCF = Comparable Fuels emission factor of 0.96 lb PM/10^3 gallons Comparable Fuels or the measured value from the last emissions test
10^3 Gal CF = thousand gallons Comparable Fuels burned during the month
HVCoal = average heat content for coal burned during the month, mmBtu/ton
HVCF = representative or lower heat content for Comparable Fuels burned during the month, mmBtu/10^3 gals
Efficiency = 99% or the measured value from the last emissions test

b. Pursuant to 401 KAR 61:015, Section 4(2), visible emissions shall not exceed 20% opacity, except as follows:
1) Pursuant to 401 KAR 50:055, Section 1(1), emissions due to shutdown or malfunctions which temporarily exceed opacity standard shall not be deemed in violation of such standards if the requirements of 401 KAR 50:055, Sections 1(2) and 1(3) are satisfied, and the Director makes the determinations specified in Section 1(4).

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

RILEY BOILER (Emission Unit OAA)

2. Emission Limitations (Continued):

2) Pursuant to 401 KAR 61:015, Section 4(2)(b), a maximum of 40% opacity is permissible for not more than 6 consecutive minutes in any 60 consecutive minute period during cleaning the fire box or blowing soot.
3) Pursuant to 401 KAR 61:015, Section 4(2)(c), the opacity standard does not apply during building a new fire for the period required to bring the boiler up to operating conditions, provided the method used is that recommended by the manufacturer and the time does not exceed the manufacturer's recommendations.
4) Pursuant to 401 KAR 50:055, Section 2(4), the opacity standard does not apply during periods of startup and shutdown.

Compliance Demonstration Method:
Refer to **4. Specific Monitoring Requirements** and **5. Specific Recordkeeping Requirements**.

c. When burning coal alone, pursuant to 401 KAR 61:015, Section 5(1), sulfur dioxide emissions shall not exceed 6.0 lbs/mmBtu, except as follows.

Pursuant to 401 KAR 50:055, Section 1(1), sulfur dioxide emissions due to shutdown or malfunctions which temporarily exceed the standard shall not be deemed in violation of such standards if the requirements of 401 KAR 50:055, Sections 1(2) and 1(3) are satisfied, and the Director makes the determinations specified in Section 1(4).

Compliance Demonstration Method:
Maintain records and calculate 24-hour average emission rates upon request by the Division, as follows:

lb SO_2/mmBtu = (38 x %S) lb SO_2/ton coal ÷ HVCoal

where: %S = average coal weight percent sulfur content
HVCoal = average coal heat content

d. When burning coal and Comparable Fuels simultaneously, pursuant to 401 KAR 61:015, Section 5(2), sulfur dioxide emissions shall not exceed the allowable emission rate determined by proration using the following formula, except as follows.

Pursuant to 401 KAR 50:055, Section 1(1), sulfur dioxide emissions due to shutdown or malfunctions which temporarily exceed the standard shall not be deemed in violation of such standards if the requirements of 401 KAR 50:055, Sections 1(2) and 1(3) are satisfied, and the Director makes the determinations specified in Section 1(4).

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

RILEY BOILER (Emission Unit OAA)

2. Emission Limitations (Continued):

Allowable SO_2 Emissions lb/mmBtu = {y(3.4) +z(6.0)}÷{y + z}

where: y = the percent of total heat input derived from Comparable Fuels (liquid fuel)
z = the percent of total heat input derived from coal (solid fuel)

Compliance Demonstration Method:
Maintain records and calculate 24-hour average emission rates upon request by the Division, as follows (Comparable Fuels stream contains negligible sulfur):

lb SO_2/mmBtu = {(38 x %S) lb SO_2/tons coal x Tons Coal)
÷ {(HVCoal x Tons Coal) + (HVCF x 10^3 Gals CF)}

where: %S = average coal weight percent sulfur content
Tons Coal = total tons of coal burned during the 24-hour period
HVCoal = average heat content for coal burned, mmBtu/ton
10^3 Gal CF= thousand gallons Comparable Fuels burned
HVCF = representative or lower heat content for Comparable Fuels burned, mmBtu/10^3 gals

e. Pursuant to 401 KAR 51:017 [PSD limit in V-99-038], combined nitrogen oxides emissions from the burning of coal and combustion of the waste gas stream, expressed as nitrogen dioxide shall not exceed 122.8 lbs per hour on a monthly average, except as follows.

Pursuant to 401 KAR 50:055, Section 1(1), nitrogen oxides emissions due to shutdown or malfunctions which temporarily exceed the monthly average standard shall not be deemed in violation of such standards if the requirements of 401 KAR 50:055, Sections 1(2) and 1(3) are satisfied, and the Director makes the determinations specified in Section 1(4).

Compliance Demonstration Method:
Historical and performance testing during term of the permit of nitrogen oxides emissions.

3. Testing Requirements:

a. As long as the boiler is used to combust an ammonia-laden waste gas stream, the permittee shall conduct testing for NO_X within 24 months after issuance of final permit V-06-052. Testing for NO_X shall be performed using Reference Method 7. Production of 211/222 pyrrolidone shall be operated to give the maximum ammonia production to determine compliance with the 122.8 lbs/hour nitrogen oxides emission rate limit, expressed as nitrogen dioxide.

b. The permittee shall conduct testing for particulate within 24 months after issuance of final permit V-06-052 using Reference Method 5.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

RILEY BOILER (Emission Unit OAA)

4. Specific Monitoring Requirements:

a. The permittee shall maintain, calibrate and operate according to manufacturer's specification, a monitoring device for the measurement of the total differential pressure across the Baghouse 115/3601.

b. A yearly inspection of the waste gas injection system into the Riley Boiler shall be performed.

c. The following procedures are included in the Compliance Assurance Monitoring (CAM) plan, pursuant to 40 CFR 64:
   1) The pressure drop across the baghouse is measured with a differential pressure gauge.
   2) The pressure should be 2.5 to 7.5 inches of water as a daily average. An excursion is defined as a daily average pressure drop outside this range. Excursions trigger an inspection, corrective action, and a reporting requirement.
   3) Pressure taps are located at the inlet and outlet of the venture scrubber.
   4) The pressure gauges are calibrated manually.
   5) The differential pressure drop is monitored once every three hours during boiler operation.
   6) The plant's inspection and maintenance program includes a semi-annual inspection of the bags and bag replacement as required but at a minimum once every 24 months.
   7) Bag condition: an excursion is defined as failure to perform the inspection and as needed bag replacement. Excursions trigger a corrective action and a reporting requirement.
   8) Bags are inspected visually for deterioration and the baghouse unit is inspected for signs of leaking bags.

d. The permittee shall perform qualitative weekly visual observations of the control device or stack. If visible emissions are observed, then:
   1) The permittee shall correct the problem (as indicated by another visual observation showing no visible emissions), or
   2) The permittee shall perform an EPA Method 9 test.

5. Specific Recordkeeping Requirements:

a. Vendor certifications representative of the heat and sulfur content for all coal burned. The permittee shall either perform the appropriate ASTM methods for each batch processed by the vendor, or have a contractual agreement with its supplier to have the ASTM methods performed on each batch processed by the vendor.

b. Analysis or calculations of the representative heat content for the Comparable Fuels stream burned. This can be a worst-case (lower) heat content.

c. Results of all opacity and particulate emission tests performed on this emission unit.

d. Nitrogen oxides emissions measurements and concurrent 211 and 222 pyrrolidone production

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

RILEY BOILER (Emission Unit OAA)

rate during the emissions measurements.

5. Specific Recordkeeping Requirements (Continued):

e. Monthly average lb/hr pyrrolidone production rate for the 211 and 222 pyrrolidone units.

f. Daily records of the total differential static pressure across the baghouse.

g. Retain records of the results of the weekly visual observations. The records shall include the date of the observation, and whether any visible emissions were observed. If a visual observation was not performed, the reason for not performing it shall also be recorded.
If visible emissions are observed, then the following additional records shall be retained:
1) The actions taken to correct the problem, and result of the subsequent visual observation showing no visible emissions, or
2) The results of the Reference Method 9 opacity test.

h. Daily log of the baghouse cleaning cycle sequencing.

i. Daily log of the plant air system pressure.

j. Daily log of the status of the baghouse hoppers.

k. Daily steam production

l. A log of the routine and scheduled maintenance performed on the Riley Boiler, multi-cyclone, baghouse and on the waste gas injection system to the Riley Boiler.

6. Specific Reporting Requirements:

Refer to Section **F.7**.

7. Specific Control Equipment Operating Conditions:

The baghouse shall operate at a minimum of 2.5 inches water pressure drop (daily average). [40 CFR 64]

8. Compliance Schedule:

40 CFR 63 Subpart DDDDD, National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers and Process Heaters was vacated and remanded by U.S. Court of Appeals on July 30, 2007. The facility will be required to perform a case-by-case MACT analysis, if notified to do so.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

BABCOCK & WILCOX (B&W) BOILER (Emission Unit 0AB)

0AB BABCOCK & WILCOX (B&W) BOILER 115/5303
Rated capacity 77 mmBtu/hr heat input
Commenced 1955
Natural Gas and Fuel Oil Fired

01 **B&W – Fuel Oil**
Controls: None

02 **B&W – Natural Gas**
Controls: None

APPLICABLE REGULATIONS:
401 KAR 50:055, General Compliance Requirements.

401 KAR 61:015, Existing Indirect Heat Exchangers constructed prior to April 9, 1972.

1. Operating Limitations:
None

2. Emission Limitations:

a. Pursuant to 401 KAR 61:015, Section 4(1), particulate emissions shall not exceed 0.25 lb/mmBtu, except as provided below.

Pursuant to 401 KAR 50:055, Section 1(1), particulate emissions due to shutdown or malfunctions which temporarily exceed the standard shall not be deemed in violation of such standards if the requirements of 401 KAR 50:055, Sections 1(2) and 1(3) are satisfied, and the Director makes the determinations specified in Section 1(4).

Compliance Demonstration Method:
While burning only fuel oil or natural gas the permittee shall be deemed to be in compliance with the applicable emission standards. The permittee shall keep annual (calendar year) records of the type(s) of fuel burned.

b. Pursuant to 401 KAR 61:015, Section 4(2), visible emissions shall not exceed 20% opacity, except as follows:
   1) Pursuant to 401 KAR 50:055, Section 1(1), emissions due to shutdown or malfunctions which temporarily exceed the opacity standard shall not be deemed in violation of such standards if the requirements of 401 KAR 50:055, Sections 1(2) and 1(3) are satisfied, and the Director makes the determinations specified in Section 1(4).

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

BABCOCK & WILCOX (B&W) BOILER (Emission Unit 0AB)

2. Emission Limitations (Continued):

2) Pursuant to 401 KAR 61:015, Section 4(2)(c), the opacity standard does not apply during building a new fire for the period required to bring the boiler up to operating conditions, provided the method used is that recommended by the manufacturer and the time does not exceed the manufacturer's recommendations.

3) Pursuant to 401 KAR 50:055, Section 2(4), the opacity standard does not apply during periods of startup and shutdown.

Compliance Demonstration Method:
While burning only the natural gas or fuel oil the permittee shall be deemed to be in compliance with the applicable emission standards. The permittee shall keep annual (calendar year) records of the type(s) of fuel burned.

c. Pursuant to 401 KAR 61:015, Section 5(1), sulfur dioxide emissions shall not exceed 4.0 lbs/mmBtu, except as follows.

Pursuant to 401 KAR 50:055, Section 1(1), sulfur dioxide emissions due to shutdown or malfunctions which temporarily exceed the standard shall not be deemed in violation of such standards if the requirements of 401 KAR 50:055, Sections 1(2) and 1(3) are satisfied, and the Director makes the determinations specified in Section 1(4).

Compliance Demonstration Method:
When the indirect heat exchanger is burning natural gas, the permittee is in compliance with the sulfur dioxide emission standard. When burning fuel oil, the permittee is in compliance when the calculated lbs SO_2/mmBtu is less than the allowable. Calculations shall be made based on a 24-hour average emission rate upon request by the Division, as follows:

lb SO_2/mmBtu = (142 x oil weight % sulfur) lb $SO_2/10^3$ gal oil ÷ mmBtu/10^3 gal oil.

Refer to **4. Specific Monitoring Requirements** for oil weight % sulfur and **5. Specific Recordkeeping Requirements** for fuel heat content.

3. Testing Requirements:
None

4. Specific Monitoring Requirements:
The permittee shall monitor and record the oil weight % sulfur each day, by on site analysis or vendor certification.

5. Specific Recordkeeping Requirements:

a. The permittee shall retain records representative of the heat content for all fuel oil burned.

b. The permittee shall retain records of the sulfur content for all fuel oil burned.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

BABCOCK & WILCOX (B&W) BOILER (Emission Unit 0AB)

5. Specific Recordkeeping Requirements (Continued):

c. The permittee shall retain annual (calendar year) records of the types of fuel burned in the boiler.

6. Specific Reporting Requirements:

Refer to Section **F.7**.

7. Specific Control Equipment Operating Conditions:

None

8. Compliance Certification:

40 CFR 63 Subpart DDDDD, National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers and Process Heaters was vacated and remanded by U.S. Court of Appeals on July 30, 2007. The facility will be required to perform a case-by-case MACT analysis, if notified to do so.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

WICKES BOILER (Emission Unit 0AC)

0AC WICKES BOILER 115/5304
Rated capacity 79 mmBtu/hr heat input
Constructed 1958, Modified 2003
Natural Gas, Hydrogen, and Comparable Fuels Fired

01 **Wickes – BLO Hydrogen By-Product**
Controls: None

02 **Wickes – Natural Gas**
Controls: None

03 **Wickes – Comparable Fuels**
Controls: None

APPLICABLE REGULATIONS:
401 KAR 50:055, General Compliance Requirements.

401 KAR 59:005, General Provisions.

401 KAR 59:015, New Indirect Heat Exchangers constructed after April 9, 1972.

401 KAR 60:005, incorporating by reference 40 CFR 60 Subpart Dc, Standards of performance for small industrial-commercial-institutional steam generating units that commences construction, modification, or reconstruction after June 9, 1989.

40 CFR 261, Identification and Listing of Hazardous Waste.

NON-APPLICABLE REGULATIONS:
401 KAR 60:005, incorporating by reference 40 CFR 60 Subpart Dc – Particulate matter standard does not apply to the Wickes Boiler 115/5304. Pursuant to 40 CFR 60 Subpart Dc Section 60.43c(a), (b), and (e), units that do not burn coal, wood, or oil and that commenced construction, reconstruction, or modification prior to February 28, 2005 are exempt from the particulate matter emission standards.

401 KAR 60:005, incorporating by reference 40 CFR 60 Subpart Dc – Opacity standard does not apply to the Wickes Boiler 115/5304. Pursuant to 40 CFR 60 Subpart Dc Section 60.43c(c), the opacity standard applies only to units that burn coal, wood, or oil.

401 KAR 60:005, incorporating by reference 40 CFR 60 Subpart Dc – Sulfur dioxide standards does not apply to the Wickes Boiler 115/5304. Pursuant to 40 CFR 60 Subpart Dc Section 60.42c, the sulfur dioxide emission standards apply only to units that burn coal or oil.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

WICKES BOILER (Emission Unit 0AC)

NON-APPLICABLE REGULATIONS (Continued):
401 KAR 60:005, incorporating by reference 40 CFR 60 Subpart Dc – Semi-annual reporting and fuel supplier certification requirements does not apply to the Wickes Boiler 115/5304. Pursuant to 40 CFR 60 Subpart Dc Section 60.48c(c), (d), (e), and (f), semi-annual reports and fuel supplier certification records are not required since the boiler is not subject to sulfur dioxide, particulate, or opacity standards under the rule.

1. Operating Limitations:
Permittee shall burn only natural gas, BLO hydrogen by-product, or materials that comply with the Comparable/Syngas Fuels Exclusion (40 CFR 261.38).

Compliance Demonstration Method:
Permittee shall maintain records of all fuels burned in the Wickes Boiler.

2. Emission Limitations:

a. Pursuant to 401 KAR 59:015, Section 4(1)(b), particulate emissions shall not exceed 0.10 lb/mmBtu, except as follows.

Pursuant to 401 KAR 50:055, Section 1(1), particulate emissions due to shutdown or malfunctions which temporarily exceed the standard shall not be deemed in violation of such standards if the requirements of 401 KAR 50:055, Sections 1(2) and 1(3) are satisfied, and the Director makes the determinations specified in Section 1(4).

Compliance Demonstration Method:
While burning only natural gas, BLO hydrogen by-product, and/or comparable fuels, the permittee shall be deemed to be in compliance with the applicable emission standards. The permittee shall keep records of the fuel burned.

b. Pursuant to 401 KAR 59:015, Section 4(2), visible emissions shall not exceed 20% opacity basis, except as follows:
   1) Pursuant to 401 KAR 50:055, Section 1(1), emissions due to shutdown or malfunctions which temporarily exceed the opacity standard shall not be deemed in violation of such standards if the requirements of 401 KAR 50:055, Sections 1(2) and 1(3) are satisfied, and the Director makes the determinations specified in Section 1(4).
   2) Pursuant to 401 KAR 59:015, Section 4(2)(b), a maximum of 40% opacity is permissible for not more than 6 consecutive minutes in any 60 consecutive minute period during cleaning the fire box or blowing soot.
   3) Pursuant to 401 KAR 59:015, Section 4(2)(c), the opacity standard does not apply during building a new fire for the period required to bring the boiler up to operating conditions, provided the method used is that recommended by the manufacturer and the time does not exceed the manufacturer's recommendations.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

WICKES BOILER (Emission Unit 0AC)

2. Emission Limitations (Continued):

4) Pursuant to 401 KAR 50:055, Section 2(4), the opacity standard does not apply during periods of startup and shutdown.

Compliance Demonstration Method:
While burning only natural gas, BLO hydrogen by-product, and/or comparable fuels, the permittee shall be deemed to be in compliance with the applicable emission standards. The permittee shall keep records of the fuel burned.

c. Pursuant to 401 KAR 59:015, Section 5(1)(b), sulfur dioxide emissions shall not exceed 0.8 lb/mmBtu on a 24-hour average basis, except as follows.

Pursuant to 401 KAR 50:055, Section 1(1), sulfur dioxide emissions due to shutdown or malfunctions which temporarily exceed the 24-hour standard shall not be deemed in violation of such standards if the requirements of 401 KAR 50:055, Sections 1(2) and 1(3) are satisfied, and the Director makes the determinations specified in Section 1(4).

Compliance Demonstration Method:
While burning only natural gas, BLO hydrogen by-product, and/or comparable fuels, the permittee shall be deemed to be in compliance with the applicable emission standards. The permittee shall keep records of the fuel burned.

3. Testing Requirements:
In addition to any waste analysis plan required by 40 CFR 261.38, the permittee shall calculate by either testing results or through inherent process knowledge the sulfur content of all comparable fuels burned in the boiler.

4. Specific Monitoring Requirements:
None

5. Specific Recordkeeping Requirements:

a. Pursuant to 40 CFR 60 Subpart Dc, Section 60.48c(g), the permittee shall record the amount of each fuel combusted during each day.

b. Pursuant to 40 CFR 60 Subpart A, Section 60.7(b), and 401 KAR 59:005, Section 3(2), the permittee shall record the occurrence and duration of any startup, shutdown, or malfunction in the operation of the indirect heat exchanger.

6. Specific Reporting Requirements:

a. Refer to Section **F.7**.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

WICKES BOILER (Emission Unit 0AC)

6. Specific Reporting Requirements (Continued):

b. Pursuant to 40 CFR 60 Subpart A, Section 60.7(a)(4), and 401 KAR 59:005, Section 3(1)(d), the Paducah Regional Office shall be notified of modifications (as defined in 401 KAR 59:001) to this affected facility. This notice shall be postmarked 60 days or as soon as practicable before the change is commenced and shall include information describing the precise nature of the change, present and proposed emission control systems, productive capacity of the facility before and after the change, and the expected completion date of the change. The Cabinet may request additional relevant information subsequent to this notice.

7. Specific Control Equipment Operating Conditions:

None

8. Compliance Certification:

40 CFR 63 Subpart DDDDD, National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers and Process Heaters was vacated and remanded by U.S. Court of Appeals on July 30, 2007. The facility will be required to perform a case-by-case MACT analysis, if notified to do so.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

EAST PARACYMENE HEATER (Emission Unit 0AD)

0AD EAST (STRUTHERS) PARACYMENE HEATER 115/5306
Rated capacity 19 mmBtu/hr heat input
Constructed 1961, to be modified 2007
Natural Gas, Hydrogen, and Fuel Oil Fired

01 **East Paracymene – Fuel Oil**
Controls: None

02 **East Paracymene – Natural Gas**
Controls: None

03 **East Paracymene – BLO Hydrogen By-Product**
Controls: None

APPLICABLE REGULATIONS:
401 KAR 50:055, General Compliance Requirements.

401 KAR 59:005, General Provisions.

401 KAR 59:015, New Indirect Heat Exchangers constructed after April 9, 1972.

401 KAR 60:005, incorporating by reference 40 CFR 60 Subpart Dc, Standards of performance for small industrial-commercial-institutional steam generating units that commences construction, modification, or reconstruction after June 9, 1989.

NON-APPLICABLE REGULATIONS:
401 KAR 60:005, incorporating by reference 40 CFR 60 Subpart Dc – Particulate matter standard does not apply to the East Paracymene Heater 115/5306.Pursuant to 40 CFR 60 Subpart Dc Section 60.43c(a), (b), and (e), the particulate emission standards do not apply to units with a heat input capacity less than 30 mmBtu/hr.

401 KAR 60:005, incorporating by reference 40 CFR 60 Subpart Dc – Opacity standard does not apply to the East Paracymene Heater 115/5306. Pursuant to 40 CFR 60 Subpart Dc Section 60.43c(c), the opacity standard does not apply to units with a heat input capacity less than 30 mmBtu/hr.

401 KAR 60:005, incorporating by reference 40 CFR 60 Subpart Dc – Sulfur dioxide monitoring does not apply to the East Paracymene Heater 115/5306. Pursuant to 40 CFR 60 Subpart Dc Section 60.46c(e), the sulfur dioxide monitoring requirements of 60.46c do not apply to units that use fuel supplier certifications to demonstrate compliance with the sulfur dioxide emission standard.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

EAST PARACYMENE HEATER (Emission Unit 0AD)

1. Operating Limitations:

Pursuant to 40 CFR 60 Subpart Dc, Section 60.42c(h), no oil that contains greater than 0.5 weight percent sulfur shall be combusted.

Compliance Demonstration Method:
Records as specified by Section 5. Specific Recordkeeping Requirements.

2. Emission Limitations:

a. Pursuant to 401 KAR 59:015, Section 4(1)(b), particulate emissions shall not exceed 0.10 lb/mmBtu, except as follows.

Pursuant to 401 KAR 50:055, Section 1(1), particulate emissions due to shutdown or malfunctions which temporarily exceed the standard shall not be deemed in violation of such standards if the requirements of 401 KAR 50:055, Sections 1(2) and 1(3) are satisfied, and the Director makes the determinations specified in Section 1(4).

Compliance Demonstration Method:
While burning only natural gas, BLO hydrogen by-product, and/or #2 fuel oil, the permittee shall be deemed to be in compliance with the applicable emission standards. The permittee shall keep records of the fuel burned.

b. Pursuant to 401 KAR 59:015, Section 4(2), visible emissions shall not exceed 20% opacity, except as follows:
   1) Pursuant to 401 KAR 50:055, Section 1(1), emissions due to shutdown or malfunctions which temporarily exceed the 6-minute average opacity standard shall not be deemed in violation of such standards if the requirements of 401 KAR 50:055, Sections 1(2) and 1(3) are satisfied, and the Director makes the determinations specified in Section 1(4).
   2) Pursuant to 401 KAR 59:015, Section 4(2)(b), a maximum of 40% opacity is permissible for not more than 6 consecutive minutes in any 60 consecutive minute period during cleaning the fire box or blowing soot.
   3) Pursuant to 401 KAR 59:015, Section 4(2)(c), the opacity standard does not apply during building a new fire for the period required to bring the boiler up to operating conditions, provided the method used is that recommended by the manufacturer and the time does not exceed the manufacturer's recommendations.
   4) Pursuant to 401 KAR 50:055, Section 2(4), the opacity standard does not apply during periods of startup and shutdown.

Compliance Demonstration Method:
While burning only natural gas, BLO hydrogen by-product, and/or #2 fuel oil, the permittee shall be deemed to be in compliance with the applicable emission standards. The permittee shall keep records of the fuel burned.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

EAST PARACYMENE HEATER (Emission Unit 0AD)

2. Emission Limitations (Continued):

c. Pursuant to 401 KAR 59:015, Section 5(1)(b), when burning natural gas and/or hydrogen, sulfur dioxide emissions shall not exceed 0.8 lb/mmBtu, except as follows.

Pursuant to 401 KAR 50:055, Section 1(1), sulfur dioxide emissions due to shutdown or malfunctions which temporarily exceed the standard shall not be deemed in violation of such standards if the requirements of 401 KAR 50:055, Sections 1(2) and 1(3) are satisfied, and the Director makes the determinations specified in Section 1(4).

Compliance Demonstration Method:
When the indirect heat exchanger is burning natural gas and/or BLO hydrogen by-product, the permittee is assumed to be in compliance with the 401 KAR 59:015, Section 5(1)(b) sulfur dioxide emission standard. The permittee shall keep records of the fuel burned.

3. Testing Requirements:

None

4. Specific Monitoring Requirements:

None

5. Specific Recordkeeping Requirements:

a. Pursuant to 40 CFR 60 Subpart Dc, Sections 60.42c(h) and 60.48c(f)(1), the permittee shall record the sulfur content of fuel oil burned by obtaining a fuel supplier certification for all fuel oil burned. The fuel supplier certification shall include the following information:
   1) The name of the oil supplier; and
   2) A statement from the oil supplier that the oil complies with the specifications under the definition of distillate oil in 40 CFR 60 Subpart Dc, Section 60.41c (ASTM Standard Specifications for Fuel Oils for number 1 and 2 fuel oils).

b. Pursuant to 40 CFR 60 Subpart Dc, Section 60.48c(g), the permittee shall record the amount of each fuel combusted during each day.

c. Pursuant to 40 CFR 60 Subpart Dc, Section 60.48c(e), the permittee shall retain records of the reports required by Section 60.48c(d).

d. Pursuant to 40 CFR 60 Subpart A, Section 60.7(b), and 401 KAR 59:005, Section 3(2), the permittee shall record the occurrence and duration of any startup, shutdown, or malfunction in the operation of the indirect heat exchanger.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

EAST PARACYMENE HEATER (Emission Unit 0AD)

6. Specific Reporting Requirements:

a. Refer to Section **F.7**, **F.8**, and **F.9**.

b. Pursuant to 40 CFR 60 Subpart A, Section 60.7(a)(4), and 401 KAR 59:005, Section 3(1)(d), the Paducah Regional Office shall be notified of modifications (as defined in 401 KAR 59:001) to this affected facility. This notice shall be postmarked 60 days or as soon as practicable before the change is commenced and shall include information describing the precise nature of the change, present and proposed emission control systems, productive capacity of the facility before and after the change, and the expected completion date of the change. The Cabinet may request additional relevant information subsequent to this notice.

c. Pursuant to 40 CFR 60 Subpart Dc, Sections 60.48c(d), (e)(11), (f), and (j), the permittee shall submit reports to the Paducah Regional Office. Each report shall be postmarked by the 30th day following the end of each six-month reporting period, and shall include the following information:
   1) Fuel supplier certification, as described in 60.48c(f)(1); and
   2) A statement signed by the owner or operator that the records of fuel supplier certification submitted represent all of the fuel oil combusted during the reporting period.

7. Specific Control Equipment Operating Conditions:

None

8. Compliance Certification:

40 CFR 63 Subpart DDDDD, National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers and Process Heaters was vacated and remanded by U.S. Court of Appeals on July 30, 2007. The facility will be required to perform a case-by-case MACT analysis, if notified to do so.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

ZURN BOILER (Emission Unit 0ZU)

0ZU ZURN BOILER 115/5328
Rated capacity 149 mmBtu/hr heat input
Commenced 1972 (installed at ISP 1986)
Natural Gas and Fuel Oil Fired
Equipped with Low NO_X Burner

01 **Zurn – Fuel Oil**
Controls: None

02 **Zurn – Natural Gas**
Controls: None

APPLICABLE REGULATIONS:

401 KAR 50:055, General Compliance Requirements.

401 KAR 59:005, General Provisions.

401 KAR 59:015, New Indirect Heat Exchangers constructed after April 9, 1972.

NON-APPLICABLE REGULATIONS:

401 KAR 60:005, incorporating by reference 40 CFR 60 Subpart Db does not apply to Zurn Boiler 115/5328. 40 CFR 60 Subpart Db (Standards of performance for industrial-commercial-institutional steam generating units) does not apply as construction date was before June 19, 1984. Unit was constructed and operational prior to 1972, but installed in Kentucky in November 1986.

401 KAR 51:017 Prevention of Significant Deterioration of Air Quality (PSD) does not apply to Zurn Boiler 115/5328. The source has accepted operating and emission limitations in order to preclude the applicability of PSD for sulfur dioxide.

1. **Operating Limitations**:
   No. 2 Fuel Oil use shall not exceed 700,000 gallons per year for any twelve (12) consecutive months, and the sulfur content of No. 2 fuel oil burned shall not exceed 0.5 weight percent [To preclude the applicability of 401 KAR 51:017, PSD for SO_2].

2. **Emission Limitations:**
   a. Pursuant to 401 KAR 59:015, Section 4(1)(b), particulate emissions shall not exceed 0.10 lb/mmBtu, except as follows.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

ZURN BOILER (Emission Unit 0ZU)

2. Emission Limitations (Continued):

Pursuant to 401 KAR 50:055, Section 1(1), particulate emissions due to shutdown or malfunctions which temporarily exceed the standard shall not be deemed in violation of such standards if the requirements of 401 KAR 50:055, Sections 1(2) and 1(3) are satisfied, and the Director makes the determinations specified in Section 1(4).

Compliance Demonstration Method:
When burning only natural gas or fuel oil, permittee shall be deemed to be in compliance with the applicable emission standards. The permittee shall keep annual (calendar year) records of the type(s) of fuel burned.

b. Pursuant to 401 KAR 59:015, Section 4(2), visible emissions shall not exceed 20% opacity, except as follows:
   1) Pursuant to 401 KAR 50:055, Section 1(1), emissions due to shutdown or malfunctions which temporarily exceed the opacity standard shall not be deemed in violation of such standards if the requirements of 401 KAR 50:055, Sections 1(2) and 1(3) are satisfied, and the Director makes the determinations specified in Section 1(4).
   2) Pursuant to 401 KAR 59:015, Section 4(2)(b), a maximum of 40% opacity is permissible for not more than 6 consecutive minutes in any 60 consecutive minute period during cleaning the fire box or blowing soot.
   3) Pursuant to 401 KAR 59:015, Section 4(2)(c), the opacity standard does not apply during building a new fire for the period required to bring the boiler up to operating conditions, provided the method used is that recommended by the manufacturer and the time does not exceed the manufacturer's recommendations.
   4) Pursuant to 401 KAR 50:055, Section 2(4), the opacity standard does not apply during periods of startup and shutdown.

Compliance Demonstration Method:
When burning only natural gas or #2 fuel oil, permittee shall be deemed to be in compliance with the applicable emission standards. The permittee shall keep annual (calendar year) records of the type(s) of fuel burned.

c. Pursuant to 401 KAR 59:015, Section 5(1)(b), sulfur dioxide emissions shall not exceed 0.8 lb/mmBtu, except as follows.

Pursuant to 401 KAR 50:055, Section 1(1), sulfur dioxide emissions due to shutdown or malfunctions which temporarily exceed the standard shall not be deemed in violation of such standards if the requirements of 401 KAR 50:055, Sections 1(2) and 1(3) are satisfied, and the Director makes the determinations specified in Section 1(4).

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

ZURN BOILER (Emission Unit 0ZU)

2. Emission Limitations (Continued):

Compliance Demonstration Method:
When the indirect heat exchanger is burning natural gas, the permittee is in compliance with the sulfur dioxide emission standard. When burning No. 2 fuel oil, the permittee is in compliance when the calculated lbs SO_2/mmBtu is less than the allowable. Calculations shall be made based on a 24-hour average emission rate upon request by the Division, as follows:

lb SO_2/mmBtu = (142 x oil weight % sulfur) lb $SO_2/10^3$ gal oil ÷ mmBtu/10^3 gal oil.

Refer to **4. Specific Monitoring Requirements** for oil weight % sulfur and **5. Specific Recordkeeping Requirements** for fuel heat content.

d. Sulfur dioxide emissions shall not equal or exceed 36 tons/yr for any twelve (12) consecutive months [To preclude the applicability of 401 KAR 51:017, PSD for SO_2].

Compliance Demonstration Method:
Fuel oil use is limited to 700,000 gallons per year, and fuel oil sulfur content limited to 0.5 weight percent. Permittee shall retain monthly records of fuel oil use and vendor certifications representative of the sulfur content of all fuel oil burned.

3. Testing Requirements:
None

4. Specific Monitoring Requirements:
The permittee shall monitor and record the oil weight % sulfur each day by on-site analysis or vendor certification.

5. Specific Recordkeeping Requirements:

a. The permittee shall retain records representative of the heat content of all fuel oil burned.

b. The permittee shall retain records of the sulfur content of all fuel oil burned.

c. The permittee shall retain annual (calendar year) records of the types of fuel burned in the boiler.

d. The permittee shall record the amount of No. 2 fuel oil burned each month.

e. Pursuant to 401 KAR 59:005, Section 3(2), the permittee shall record and retain records of the occurrence and duration of any startup, shutdown, or malfunction in the operation of the boiler.

6. Specific Reporting Requirements:
Refer to Section **F.7**, **F.8**, and **F.9**.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

ZURN BOILER (Emission Unit 0ZU)

7. Specific Control Equipment Operating Conditions:
None

8. Compliance Certification:
40 CFR 63 Subpart DDDDD, National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers and Process Heaters was vacated and remanded by U.S. Court of Appeals on July 30, 2007. The facility will be required to perform a case-by-case MACT analysis, if notified to do so.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

WEST PARACYMENE HEATER (Emission Unit WPH)

WPH WEST (FIRST THERMAL SYSTEMS) PARACYMENE HEATER 126/5301
Rated capacity 13 mmBtu/hr heat input
Constructed 1990, Modified 2001
Natural Gas, Fuel Oil, and Hydrogen Fired

01 **W Paracymene – Fuel Oil**
Controls: None

02 **W Paracymene – Natural Gas**
Controls: None

03 **W Paracymene – BLO Hydrogen By-Product**
Controls: None

APPLICABLE REGULATIONS:
401 KAR 50:055, General Compliance Requirements.

401 KAR 59:005, General Provisions.

401 KAR 59:015, New Indirect Heat Exchangers constructed after April 9, 1972.

401 KAR 60:005, incorporating by reference 40 CFR 60 Subpart Dc, Standards of performance for small industrial-commercial-institutional steam generating units that commences construction, modification, or reconstruction after June 9, 1989.

NON-APPLICABLE REGULATIONS:
401 KAR 60:005, incorporating by reference 40 CFR 60 Subpart Dc – Particulate matter standard. Pursuant to 40 CFR 60 Subpart Dc Section 60.43c(a), (b), and (e), the particulate emission standards do not apply to units with a heat input capacity less than 30 mmBtu/hr.

401 KAR 60:005, incorporating by reference 40 CFR 60 Subpart Dc – Opacity standard. Pursuant to 40 CFR 60 Subpart Dc Section 60.43c(c), the opacity standard does not apply to units with a heat input capacity less than 30 mmBtu/hr.

401 KAR 60:005, incorporating by reference 40 CFR 60 Subpart Dc – Sulfur dioxide monitoring. Pursuant to 40 CFR 60 Subpart Dc Section 60.46c(e), the sulfur dioxide monitoring requirements of 60.46c do not apply to units that use fuel supplier certifications to demonstrate compliance with the sulfur dioxide emission standard.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

WEST PARACYMENE HEATER (Emission Unit WPH)

1. Operating Limitations:

Pursuant to 40 CFR 60 Subpart Dc, Section 60.42c(d), no oil that contains greater than 0.5 weight percent sulfur shall be combusted.

Compliance Demonstration Method:
Records as specified by Section **5. Specific Recordkeeping Requirements**.

2. Emission Limitations:

a. Pursuant to 401 KAR 59:015, Section 4(1)(b), particulate emissions shall not exceed 0.10 lb/mmBtu, except as follows.

Pursuant to 401 KAR 50:055, Section 1(1), particulate emissions due to shutdown or malfunctions which temporarily exceed the standard shall not be deemed in violation of such standards if the requirements of 401 KAR 50:055, Sections 1(2) and 1(3) are satisfied, and the Director makes the determinations specified in Section 1(4).

Compliance Demonstration Method:
While burning only natural gas, BLO hydrogen by-product, and/or #2 fuel oil, the permittee shall be deemed to be in compliance with the applicable emission standards. The permittee shall keep records of the fuel burned.

b. Pursuant to 401 KAR 59:015, Section 4(2), visible emissions shall not exceed 20% opacity, except as follows:
   1) Pursuant to 401 KAR 50:055, Section 1(1), emissions due to shutdown or malfunctions which temporarily exceed the opacity standard shall not be deemed in violation of such standards if the requirements of 401 KAR 50:055, Sections 1(2) and 1(3) are satisfied, and the Director makes the determinations specified in Section 1(4).
   2) Pursuant to 401 KAR 59:015, Section 4(2)(b), a maximum of 40% opacity is permissible for not more than 6 consecutive minutes in any 60 consecutive minute period during cleaning the fire box or blowing soot.
   3) Pursuant to 401 KAR 59:015, Section 4(2)(c), the opacity standard does not apply during building a new fire for the period required to bring the boiler up to operating conditions, provided the method used is that recommended by the manufacturer and the time does not exceed the manufacturer's recommendations.
   4) Pursuant to 401 KAR 50:055, Section 2(4), the opacity standard does not apply during periods of startup and shutdown.

Compliance Demonstration Method:
While burning only natural gas, BLO hydrogen by-product, and/or #2 fuel oil, the permittee shall be deemed to be in compliance with the applicable emission standards. The permittee shall keep records of the fuel burned.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

WEST PARACYMENE HEATER (Emission Unit WPH)

2. Emission Limitations (Continued):

c. Pursuant to 401 KAR 59:015, Section 5(1)(b), when burning natural gas and/or hydrogen, sulfur dioxide emissions shall not exceed 0.8 lb/mmBtu, except as follows.

Pursuant to 401 KAR 50:055, Section 1(1), sulfur dioxide emissions due to shutdown or malfunctions which temporarily exceed the standard shall not be deemed in violation of such standards if the requirements of 401 KAR 50:055, Sections 1(2) and 1(3) are satisfied, and the Director makes the determinations specified in Section 1(4).

Compliance Demonstration Method:
When the indirect heat exchanger is burning natural gas and/or BLO hydrogen by-product, the permittee is in compliance. When burning fuel oil, the permittee is in compliance based on the following formula and on oil weight % sulfur < 0.5:

lb SO_2/mmBtu = (142 x oil weight % sulfur) lb $SO_2/10^3$ gal oil ÷ mmBtu/10^3 gal oil.

Refer to **4. Specific Monitoring Requirements** for oil weight % sulfur and **5. Specific Recordkeeping Requirements** for fuel heat content.

3. Testing Requirements:

None

4. Specific Monitoring Requirements:

The permittee shall monitor and record the oil weight % sulfur each day by an on site analysis or vendor certification.

5. Specific Recordkeeping Requirements:

a. Pursuant to 40 CFR 60 Subpart Dc, Sections 60.42c(h) and 60.48c(f)(1), the permittee shall record the sulfur content of fuel oil burned by obtaining a fuel supplier certification for all fuel oil burned. The fuel supplier certification shall include the following information:
   1) The name of the oil supplier; and
   2) A statement from the oil supplier that the oil complies with the specifications under the definition of distillate oil in 40 CFR 60 Subpart Dc, Section 60.41c (ASTM Standard Specifications for Fuel Oils for number 1 and 2 fuel oils).

b. Pursuant to 40 CFR 60 Subpart Dc, Section 60.48c(g), the permittee shall record the amount of each fuel combusted during each day.

c. Pursuant to 40 CFR 60 Subpart Dc, Section 60.48c(e), the permittee shall retain records of the reports required by Section 60.48c(d).

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

WEST PARACYMENE HEATER (Emission Unit WPH)

5. Specific Recordkeeping Requirements (Continued):

d. The permittee shall retain records representative of the heat content of all fuel oil burned.

e. Pursuant to 40 CFR 60 Subpart A, Section 60.7(b), and 401 KAR 59:005, Section 3(2), the permittee shall record the occurrence and duration of any startup, shutdown, or malfunction in the operation of the indirect heat exchanger.

6. Specific Reporting Requirements:

a. Pursuant to 40 CFR 60 Subpart A, Section 60.7(a)(4), and 401 KAR 59:005, Section 3(1)(d), the Paducah Regional Office shall be notified of modifications (as defined in 401 KAR 59:001) to this affected facility. This notice shall be postmarked 60 days or as soon as practicable before the change is commenced and shall include information describing the precise nature of the change, present and proposed emission control systems, productive capacity of the facility before and after the change, and the expected completion date of the change. The Cabinet may request additional relevant information subsequent to this notice.

b. Refer to Section **F.7**, **F.8**, and **F.9**.

c. Pursuant to 40 CFR 60 Subpart Dc, Sections 60.48c(d), (e)(11), (f), and (j), the permittee shall submit reports to the Paducah Regional Office. Each report shall be postmarked by the 30th day following the end of each six-month reporting period, and shall include the following information:
   1) Fuel supplier certification, as described in 40 CFR 60.48c(f)(1); and
   2) A statement signed by the owner or operator that the records of fuel supplier certification submitted represent all of the fuel oil combusted during the reporting period.

7. Specific Control Equipment Operating Conditions:

None

8. Compliance Certification:

40 CFR 63 Subpart DDDDD, National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers and Process Heaters was vacated and remanded by U.S. Court of Appeals on July 30, 2007. The facility will be required to perform a case-by-case MACT analysis, if notified to do so.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

COOLING TOWERS (Emission Unit CT1)

CT1 NORTH COOLING TOWERS (#1 & #2) and SOUTH COOLING TOWERS (#3 & #4)
North Cooling Towers (#1 & #2): Commenced 1956 and 1960, respectively
South Cooling Towers (#1 & #2): Commenced 1966 and 1985, respectively

01 **Cooling Towers**
Controls: None

APPLICABLE REGULATIONS:
401 KAR 63:010, Fugitive Emissions.

NON-APPLICABLE REGULATIONS:
401 KAR 63:002, incorporating by reference 40 CFR 63 Subpart Q. Pursuant to 40 CFR 63.400, the provisions of Subpart Q do not apply to industrial process cooling towers that were not operated with chromium-based water treatment chemicals on or after September 8, 1994.

1. **Operating Limitations**:
Pursuant to 401 KAR 63:010, reasonable precautions shall be taken to prevent particulate matter from becoming airborne.

2. **Emission Limitations**:
None

3. **Testing Requirements:**
None

4. **Specific Monitoring Requirements**:
None

5. **Specific Recordkeeping Requirements:**
None

6. **Specific Reporting Requirements:**
None

7. **Specific Control Equipment Operating Conditions:**
None

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

R&D PILOT PLANT (Emission Unit RD)

RD R&D PILOT PLANT (324 Area) and CATALYST TESTING LAB

Equipment used for research and development purposes, including:

- Reactors (capacities less than or equal to 100 gallons each)
- Distillation columns
- Feed tanks and receivers
- Steam and/or hot water heated dryers and tumblers
- Direct-fired spray dryers with natural gas-fired burners less than 1 mmBtu/hr heat input each
- Catalyst testing lab

01 **R&D Plant Emissions**
Controls: None

APPLICABLE REGULATIONS:
401 KAR 50:055, General Compliance Requirements.

401 KAR 59:005, General Provisions.

401 KAR 59:010, New Process Operations constructed after July 2, 1975.

NON-APPLICABLE REGULATIONS:
401 KAR 63:002, incorporating by reference 40 CFR 63 Subparts F, G, and H does not apply to the R&D Pilot Plant. 40 CFR 63.100(j)(1) exempts research and development facilities from the provisions of Subparts F, G, and H.

401 KAR 63:002, incorporating by reference 40 CFR 63 Subpart FFFF does not apply to the R&D Pilot Plant. 40 CFR 63 Subpart FFFF Section 63.2435(c)(1) exempts research and development facilities from the provisions of Subparts FFFF.

401 KAR 60:005, incorporating by reference 40 CFR 60 Subpart VV does not apply to the R&D Pilot Plant Fugitive Equipment Leaks. Equipment in the pilot plant is not an affected facility under Subpart VV since the process unit(s) does not produce, as an intermediate or final product, a chemical listed in 40 CFR 60.489.

401 KAR 60:005, incorporating by reference 40 CFR 60 Subpart NNN does not apply to the R&D Pilot Plant Distillation Column(s). Distillation unit(s) in the pilot plant are exempt from 40 CFR 60 Subpart NNN since 40 CFR 60.660(c)(3) exempts distillation units that are designed and operated as a batch operation.

NON-APPLICABLE REGULATIONS (Continued):

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

R&D PILOT PLANT (Emission Unit RD)

401 KAR 60:005, incorporating by reference 40 CFR 60 Subpart RRR does not apply to the R&D Pilot Plant Reactor(s). Reactor process(es) in the pilot plant are exempt from 40 CFR 60 Subpart RRR since 40 CFR 60.700(c)(1) exempts reactor processes designed and operated as a batch operation.

1. Operating Limitations:
None

2. Emission Limitations:

a. Pursuant to 401 KAR 59:010, Section 3(2), particulate emissions from each affected facility shall not exceed 2.34 lbs/hr, except as follows:

Pursuant to 401 KAR 50:055, Section 1(1), emissions due to shutdown or malfunctions which temporarily exceed the standard shall not be deemed in violation of such standards if the requirements of 401 KAR 50:055, Sections 1(2) and 1(3) are satisfied, and the Director makes the determinations specified in Section 1(4).

Compliance Demonstration Method:
Compliance is demonstrated because of the small process rates of each affected facility (less than 2 lb/hr solids each).

b. Pursuant to 401 KAR 59:010, Section 3(1)(a), visible emissions shall not equal or exceed 20% opacity, except as follows:
   1) Pursuant to 401 KAR 50:055, Section 2(4), the opacity standard does not apply during periods of startup and shutdown; and
   2) Pursuant to 401 KAR 50:055, Section 1(1), visible emissions due to shutdown or malfunctions which temporarily exceed the standard shall not be deemed in violation of such standards if the requirements of 401 KAR 50:055, Sections 1(2) and 1(3) are satisfied, and the Director makes the determinations specified in Section 1(4).

Compliance Demonstration Method:
Compliance is demonstrated because of the small process rates of each affected facility (less than 2 lb/hr solids each).

3. Testing Requirements:
None

4. Specific Monitoring Requirements:
None

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

R&D PILOT PLANT (Emission Unit RD)

5. Specific Recordkeeping Requirements:
Pursuant to 401 KAR 59:005, Section 3(2), the permittee shall record and retain records of the occurrence and duration of any startup, shutdown, or malfunction in the operation of an affected facility subject to 401 KAR 59:010.

6. Specific Reporting Requirements:
Refer to Section **F.7**, **F.8**, and **F.9**.

7. Specific Control Equipment Operating Conditions:
None

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

GROUP REQUIREMENTS

STORAGE TANKS AND TRANSFER RACKS:

Storage Tanks

Equipment Number	Volume (gal)	Contents
210/3218	500	Ethylene glycol
222/3210	1,100	Ethylene glycol
235/3201	1,100	Ethylene glycol
240/3249	250	Ethylene glycol
311/3204	300	Ethylene glycol
332/3289	2,000	Ethylene glycol

Transfer Racks

Description	Material	Location
Transfer from container to tank 210/3218	Ethylene glycol	At tank
Transfer from container to tank 222/3210	Ethylene glycol	At tank
Transfer from container to tank 235/3201	Ethylene glycol	At tank
Transfer from container to tank 240/3249	Ethylene glycol	At tank
Transfer from railcar to tank 242/3005	Benzene	Track Y
Transfer from truck to tank 242/3101	Maleic anhydride	242 Tanker Pad
Transfer from truck to tank 305/3101	Diethyl sulfate	Adjacent to tank
Transfer from container to tank 311/3204	Ethylene glycol	At tank
Transfer from container to tank 315/3251	Acrylic acid	At tank

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

GROUP REQUIREMENTS

Description	Material	Location
Transfer from truck to tank 315/3310	Maleic anhydride	316 Area Pad
Transfer from railcar to tank 330/3001	Methanol	Track E
Transfer from railcar to tank 330/3002	Methanol	Track E
Transfer from container to tank 332/3239	Ethylene glycol	At tank
Transfer from truck to tank 333/3101	Toluene	335 Tanker Pad
Transfer from truck to tank 333/3102	Toluene	335 Tanker Pad
Transfer from truck to tank 333/3103	Toluene	335 Tanker Pad
Transfer from truck to tank 333/3108	Toluene	335 Tanker Pad
Transfer from truck to tank 333/3109	Toluene	335 Tanker Pad

APPLICABLE REGULATIONS:
40 CFR 63 SUBPART EEEE - NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS: ORGANIC LIQUID DISTRIBUTION (OLD), NON-GASOLINE

Each storage tank, transfer rack, equipment leak component, and transport vehicle in ISP's OLD operation is exempt from the control requirements of 40 CFR 63.2346(a) through (e). Pursuant to 40 CFR 63.2343, such emission sources are not subject to any other notification, record keeping, or reporting sections in Subpart EEEE, including 40 CFR 63.2350(c), except as indicated in 40 CFR 63.2343(a) through (d).

40 CFR 63.2343(a)
For each storage tank subject to 40 CFR 63 Subpart EEEE having a capacity of less than 18.9 cubic meters (5,000 gallons) and for each transfer rack subject to this subpart that only unloads organic liquids (i.e., no organic liquids are loaded at any of the transfer racks), you must keep documentation that verifies that each storage tank and transfer rack identified in 40 CFR 63.2343(a) is not required to be controlled. The documentation must be kept up-to date (i.e., all such emission sources at a facility are identified in the documentation regardless of when the documentation was last compiled) and must be in a form suitable and readily available for expeditious inspection and review according to 40 CFR 63.10(b)(1), including records stored in electronic form in a separate location. The documentation may consist of identification of the tanks and transfer racks identified in 40 CFR 63.2343(a) on a plant site plan or process and instrumentation diagram (P&ID).
APPLICABLE REGULATIONS (Continued):

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

GROUP REQUIREMENTS

40 CFR 63.2343(b)
For each storage tank subject to 40 CFR 63 Subpart EEEE having a capacity of 18.9 cubic meters (5,000 gallons) or more that is not subject to control based on the criteria specified in Table 2 of 40 CFR 63 Subpart EEEE, items 1 through 6, you must comply with the requirements specified in 40 CFR 63.2343(b)(1) through (3).

40 CFR 63.2343(c)
For each transfer rack subject to 40 CFR 63 Subpart EEEE that loads organic liquids but is not subject to control based on the criteria specified in Table 2 of 40 CFR 63 Subpart EEEE, items 7 through 10, you must comply with the requirements specified in 40 CFR 63.2343(c)(1) to (3).

40 CFR 63.2343(d)
If one or more of the events identified in 40 CFR 63.2343(d)(1) through (4) occur since the filing of the Notification of Compliance Status or the last Compliance report, you must submit a subsequent Compliance report as specified in 40 CFR 63.2343(b)(3) and (c)(3).
1) Any storage tank or transfer rack became subject to control under this subpart EEEE; or
2) Any storage tank equal to or greater than 18.9 cubic meters (5,000 gallons) became part of the affected source but is not subject to any of the emission limitations, operating limits, or work practice standards of this subpart; or
3) Any transfer rack (except those racks at which only unloading of organic liquids occurs) became part of the affected source; or
4) Any of the information required in 40 CFR 63.2386(c)(1), § 63.2386(c)(2), or § 63.2386(c)(3) has changed.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

GROUP REQUIREMENTS

SITE REMEDIATION:

APPLICABLE REGULATIONS:
40 CFR 63 SUBPART GGGGG - NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS: SITE REMEDIATION

Any site remediation activities at the facility conducted pursuant to the RCRA 3008(h) order at ISP Calvert City will be exempt from the requirements of 40 CFR 63 Subpart GGGGG, as specified below.

Pursuant to 40 CFR 63.7881(b)(3), your site remediation is not subject to 40 CFR 63 Subpart GGGGG if the site remediation will be performed under a Resource Conservation and Recovery Act (RCRA) corrective action conducted at a treatment, storage and disposal facility (TSDF) that is either required by your permit issued by either the U.S. Environmental Protection Agency (EPA) or a State program authorized by the EPA under RCRA section 3006; required by orders authorized under RCRA; or required by orders authorized under RCRA section 7003.

Pursuant to 40 CFR 63.7884(b), short-term site remediation activities are not subject to the standards of 40 CFR 63 Subpart GGGGG. Written documentation of such exempt short-term activities must be retained. The following provisions apply:

A site remediation that is completed within 30 consecutive calendar days according to the conditions in 40 CFR 63.7884(b)(1) and (2) is not subject to the standards under 40 CFR 63.7884(a). This exemption cannot be used for a site remediation involving the staged or intermittent cleanup of remediation material whereby the remediation activities at the site are started, stopped, and then re-started in a series of intervals with durations less than 30-days per interval for which the total time of all of the intervals required to complete the site remediation exceeds a total of 30 days.

1) The 30-day period for a site remediation is determined from the first day that any action is initiated that removes, destroys, degrades, transforms, immobilizes, or otherwise manages the remediation materials. The end of a site remediation is determined by the last day on which treatment or disposal of the remediation materials from the cleanup is completed. The following activities, when completed before beginning this initial action, are not counted as part of the 30-day period: activities to characterize the type and extent of the contamination by collecting and analyzing samples, activities to obtain permits from Federal, State, or local authorities to conduct the site remediation, activities to schedule workers and necessary equipment, and activities to arrange for contractor or third party assistance in performing the site remediation.
2) You must prepare and maintain at your facility written documentation describing the exempted site remediation, and listing the initiation and completion dates for the site remediation.

SECTION C – INSIGNIFICANT ACTIVITIES

The following listed activities have been determined to be insignificant activities for this source pursuant to 401 KAR 52:020, Section 6. While these activities are designated as insignificant, the permittee must comply with the applicable regulation and some minimal level of periodic monitoring may be necessary.

Area	Equipment ID	Description	Date Commenced	Generally Applicable Regulation
200	200/3641 FINES	Fines collection from baghouse 200/3641	1989	401 KAR 59:010
200	200/3708 DRUM	Oversize drum from hopper 200/3708	1965	401 KAR 61:020
200	200/3704 DRUM	Product drumming from hopper 200/3704	1955	401 KAR 61:020
200	200/3708 DRUM	Product drumming from hopper 200/3708	1965	401 KAR 61:020
236	236/3705	Loading volumetric feeder 236/3705	1983	401 KAR 59:010
236	236/3234 controlled by baghouse 236/3626	Overhead vacuum system for dryers 236/3501 and 236/3503	1983	401 KAR 59:010
236	236/3312	Filter feed tank	1967	401 KAR 61:020
236	236/3311	Filter feed tank	1967	401 KAR 61:020
236	236/3734	Loading mill feed hopper 236/3734	1987	401 KAR 59:010
236	236/3711 controlled by baghouse 236/3714	Loading product hopper 236/3711	1987	401 KAR 59:010
236	236/3710 controlled by baghouse 236/3713	Loading product hopper 236/3710	1987	401 KAR 59:010
236	236/3710 DRUM controlled by baghouse 236/3649	Drumming from hopper 236/3710	1987	401 KAR 59:010
236	236/3711 DRUM controlled by baghouse 236/3649	Drumming from hopper 236/3711	1987	401 KAR 59:010

SECTION C – INSIGNIFICANT ACTIVITIES

Area	Equipment ID	Description	Date Commenced	Generally Applicable Regulation
236	236/3712 DRUM controlled by baghouse 236/3649	Drumming from hopper 236/3712	1987	401 KAR 59:010
236	236/3509 DRUM controlled by baghouse 236/3649	Drumming from dryer 236/3509	1997	401 KAR 59:010
236	236/3712 controlled by baghouse 236/3715	Loading product hopper 236/3712	1987	401 KAR 59:010
236	236/3730 236/3732 controlled by baghouse 236/36157	Loading product hoppers 236/3730 and 3732	1997	401 KAR 59:010
236	236/32123	Loading dense phase filter 236/32123	1983	401 KAR 59:010
236	236/32123 DRUM	Drumming from dense phase filter 236/32123	1983	401 KAR 59:010
236	236/3702 DRUM	Drumming from hopper 236/3702	1983	401 KAR 59:010
236	236/3706 DRUM	Drumming from hopper 236/3706	1983	401 KAR 59:010
240	240/3704 FINES	Fines collection from dryer cyclone 240/3704	1967	401 KAR 61:020
240	240/3708 FINES	Fines collection from baghouse 240/3708	1987	401 KAR 59:010
240	240AP01 controlled by baghouse 240/3604	240 Building packaging and repack system	2000	401 KAR 59:010
240	240AP02	Repack system	2000	401 KAR 59:010
322	--	Liquid-phase vinylation pilot plant	2000	None
326	326/3406	Acetylene purification flame arrestor	1962	None
326	326/3411	Acetylene purification caustic scrubber	1984	None
326	326/3413	Acetylene purification acid tower	1992	None
334	334/3506	Process particulate emissions from #1 Reactor	1988	401 KAR 59:010

SECTION C – INSIGNIFICANT ACTIVITIES

Area	Equipment ID	Description	Date Commenced	Generally Applicable Regulation
334	334/3507	Process particulate emissions from #2 Reactor	1988	401 KAR 59:010
334	334/3232	334 Building Central Vacuum System controlled by Cyclone 334/3232	1988	401 KAR 59:010
Various	Various	Baghouse fines dust handling	Various	401 KAR 63:010

Area	Equipment ID	Description	Capacity	Units	Date Commenced	Generally Applicable Regulation
Tanks	115/3001	Storage tank	3,000	gal	1955	None
Tanks	122/3011	Storage tank	6,500	gal	2000	None
Tanks	122/3013	Storage tank	6,000	gal	1955	None
Tanks	125/3002	Storage tank	3,825	gal	1999	None
Tanks	125/3205	Storage tank	4,000	gal	1994	None
Tanks	126/3001	Storage tank	3,000	gal	1990	None
Tanks	210/3004	Storage tank	20,000	gal	1955	None
Tanks	210/3008	Storage tank	12,700	gal	1955	None
Tanks	210/3009	Storage tank	12,700	gal	1955	None
Tanks	210/3014	Storage tank	10,000	gal	1956	None
Tanks	210/3015	Storage tank	6,000	gal	1957	None
Tanks	210/3016	Storage tank	10,000	gal	1960	None
Tanks	210/3017	Storage tank	10,000	gal	1960	None
Tanks	210/3018	Storage tank	10,000	gal	1960	None
Tanks	210/3020	Storage tank	15,200	gal	1960	None
Tanks	210/3021	Storage tank	30,000	gal	1962	None
Tanks	210/3025	Storage tank	10,000	gal	1964	None
Tanks	210/3026	Storage tank	60,000	gal	1965	None
Tanks	210/3028	Storage tank	15,000	gal	1965	None

SECTION C – INSIGNIFICANT ACTIVITIES

Area	Equipment ID	Description	Capacity	Units	Date Commenced	Generally Applicable Regulation
Tanks	210/3033	Storage tank – maximum true vapor pressure of organic liquids stored < 15.0 kPa (2.2 psi)	30,000	gal	1993	None – per 60.110b(b) exempt from 40 CFR 60 Subpart Kb since max tvp < 15.0 kPa
Tanks	223/3004	Storage tank	3,000	gal	2000	None
Tanks	231/3105	Storage tank	2,330	gal	1990	None
Tanks	231/3106	Storage tank	2,330	gal	1990	None
Tanks	231/3107	Storage tank	6,700	gal	1989	None
Tanks	235/3005	Storage tank	6,000	gal	1967	None
Tanks	235/3013	Storage tank	12,700	gal	1968	None
Tanks	237/3001	Storage tank	16,500	gal	1965	None
Tanks	241/3201	Storage tank – maximum true vapor pressure of organic liquids stored < 15.0 kPa (2.2 psi)	25,000	gal	1990	None – per 60.110b(b) exempt from 40 CFR 60 Subpart Kb since max tvp < 15.0 kPa
Tanks	242/3006	Storage tank	1,000	gal	1992	None
Tanks	242/3101	Storage tank	9,000	gal	1992	None
Tanks	242/3102	Storage tank - pressure vessel designed to operate in excess of 204.9 kPa and without emissions to the atmosphere	34,000	gal	1992	None – per 60.110b(d)(2) 40 CFR 60 Subpart Kb does not apply to pressure vessels designed to operate in excess of 204.9 kPa and without emissions to the atmosphere
Tanks	242/3103	Storage tank	10,000	gal	2002	None
Tanks	305/3101	Storage tank	11,500	gal	1956	None
Tanks	310/3006	Storage tank	15,000	gal	1956	None
Tanks	310/3013	Storage tank	20,000	gal	1956	None

SECTION C – INSIGNIFICANT ACTIVITIES

Area	Equipment ID	Description	Capacity	Units	Date Commenced	Generally Applicable Regulation
Tanks	311/3001	Storage tank	20,000	gal	1959	None
Tanks	311/3005	Storage tank	12,000	gal	1960	None
Tanks	311/3006	Storage tank – maximum true vapor pressure of organic liquids stored < 15.0 kPa (2.2 psi)	20,000	gal	2001	None – per 60.110b(b) exempt from 40 CFR 60 Subpart Kb since max tvp < 15.0 kPa
Tanks	311/3007	Storage tank – maximum true vapor pressure of organic liquids stored < 15.0 kPa (2.2 psi)	20,000	gal	2001	None – per 60.110b(b) exempt from 40 CFR 60 Subpart Kb since max tvp < 15.0 kPa
Tanks	311/3008	Storage tank	20,000	gal	1960	None
Tanks	311/3011	Storage tank	20,000	gal	1956	None
Tanks	311/3012	Storage tank	71,000	gal	Jan-1984	None
Tanks	311/3013	Storage tank	15,000	gal	1957	None
Tanks	311/3014	Storage tank – maximum true vapor pressure of organic liquids stored < 15.0 kPa (2.2 psi)	37,500	gal	1997	None – per 60.110b(b) exempt from 40 CFR 60 Subpart Kb since max tvp < 15.0 kPa
Tanks	313/3006	Storage tank – maximum true vapor pressure of organic liquids stored < 15.0 kPa (2.2 psi)	20,000	gal	2002	None – per 60.110b(b) exempt from 40 CFR 60 Subpart Kb since max tvp < 15.0 kPa
Tanks	313/3007	Storage tank	10,000	gal	1965	None
Tanks	313/3102	Storage tank	5,000	gal	1955	None
Tanks	321/3002	Storage tank	30,000	gal	1960	None
Tanks	321/3005	Storage tank	100,000	gal	1961	None
Tanks	321/3007	Storage tank	30,000	gal	1960	None
Tanks	321/3008	Storage tank	12,700	gal	1955	None

SECTION C – INSIGNIFICANT ACTIVITIES

Area	Equipment ID	Description	Capacity	Units	Date Commenced	Generally Applicable Regulation
Tanks	321/3010	Storage tank	160,000	gal	1963	None
Tanks	321/3018	Storage tank	20,000	gal	1965	None
Tanks	321/3019	Storage tank	20,000	gal	1965	None
Tanks	321/3027	Storage tank	100,000	gal	1966	None
Tanks	321/3029	Storage tank – maximum true vapor pressure of organic liquids stored < 3.5 kPa (0.51 psi)	110,548	gal	1985	None – per 60.110b(b) exempt from 40 CFR 60 Subpart Kb since max tvp < 3.5 kPa
Tanks	321/3030	Storage tank	19,000	gal	1998	None
Tanks	324/3105	Storage tank	15,000	gal	1963	None
Tanks	326/3003	Storage tank	4,250	gal	1965	None
Tanks	326/3004	Storage tank	6,000	gal	1993	None
Tanks	330/3002	Storage tank	47,500	gal	1964	None
Tanks	330/3010	Storage tank	8,800	gal	1965	None
Tanks	330/3011	Storage tank – maximum true vapor pressure of organic liquids stored < 15.0 kPa (2.2 psi)	30,000	gal	1992	None – per 60.110b(b) exempt from 40 CFR 60 Subpart Kb since max tvp < 15.0 kPa
Tanks	330/3102	Storage tank	14,400	gal	1964	None
Tanks	330/3103	Storage tank	43,700	gal	1964	None
Tanks	330/3104	Storage tank	30,500	gal	1964	None
Tanks	330/3108	Storage tank	12,000	gal	1964	None
Tanks	330/3109	Storage tank	8,000	gal	1990	None
Tanks	333/3001	Storage tank	42,800	gal	1965	None
Tanks	333/3002	Storage tank	42,800	gal	1965	None
Tanks	333/3004	Storage tank	15,200	gal	1965	None
Tanks	335/3101	Storage tank – not in volatile organic liquid service	50,000	gal	1992	None – not in volatile organic liquid service

SECTION C – INSIGNIFICANT ACTIVITIES

Area	Equipment ID	Description	Capacity	Units	Date Commenced	Generally Applicable Regulation
Tanks	340/3001	Storage tank	12,700	gal	1967	None
Tanks	340/3002	Storage tank	12,700	gal	1968	None
Tanks	340/3003	Storage tank	12,700	gal	1968	None
Tanks	340/3004	Storage tank	12,700	gal	1968	None
Tanks	340/3005	Storage tank	12,700	gal	1968	None
Tanks	340/3006	Storage tank	8,000	gal	1968	None
Tanks	340/3013	Storage tank	11,000	gal	1987	None
Tanks	340/3014	Storage tank	16,500	gal	1965	None
Tanks	421/3001	Storage tank	6,000	gal	1973	None
Tanks	421/3008	Storage tank	12,700	gal	1991	None
Tanks	430/3002	Storage tank	3,825	gal	1999	None
Tanks	430/3003	Storage tank	2,400	gal	2002	None
Load	--	Loading liquid product to drums and tank wagons	--		Various	None
Utilities	--	Water treatment chemical storage and handling	--		Various	None
Utilities	--	Coal handling and stockpile	--		Pre-1964	401 KAR 63:010
Utilities	--	Diesel-fired emergency electrical generator(s)	< 500	hr/yr service each		None
Utilities	--	Petroleum liquid storage vessels with capacities less than 1,500 gallons each	< 1,500	gal each	Various	401 KAR 59:050 Section 3(2)

SECTION C – INSIGNIFICANT ACTIVITIES

Area	Equipment ID	Description	Capacity	Units	Date Commenced	Generally Applicable Regulation
Utilities	--	Backup diesel engines for well pumps	Site rating of less than 500	brake hp each	Various	Pursuant to 40 CFR 63 Subpart ZZZZ Section 63.6590 does not apply to stationary RICE with a site rating of 500 brake horsepower or less

SECTION D - SOURCE EMISSION LIMITATIONS AND TESTING REQUIREMENTS

1. As required by Section 1b of the *Cabinet Provisions and Procedures for Issuing Title V Permits* incorporated by reference in 401 KAR 52:020, Section 26, compliance with annual emissions and processing limitations contained in this permit shall be based on emissions and processing rates for any twelve (12) consecutive months.

2. Nitrogen oxides, sulfur dioxide, volatile organic compounds, and particulate matter emissions, measured by applicable reference methods or alternative method specified in 40 CFR Chapter I, or by a test method specified in the state implementation plan shall not exceed the respective limitations specified herein.

SECTION E - SOURCE CONTROL EQUIPMENT OPERATING REQUIREMENTS

Pursuant to 401 KAR 50:055, Section 2(5), at all times, including periods of startup, shutdown and malfunction, owners and operators shall, to the extent practicable, maintain and operate any affected facility including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to the division which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source.

SECTION F - MONITORING, RECORD KEEPING, AND REPORTING REQUIREMENTS

1. Pursuant to Section 1b-IV-1 of the *Cabinet Provisions and Procedures for Issuing Title V Permits* incorporated by reference in 401 KAR 52:020, Section 26, when continuing compliance is demonstrated by periodic testing or instrumental monitoring, the permittee shall compile records of required monitoring information that include:
   a. Date, place as defined in this permit, and time of sampling or measurements;
   b. Analyses performance dates;
   c. Company or entity that performed analyses;
   d. Analytical techniques or methods used;
   e. Analyses results; and
   f. Operating conditions during time of sampling or measurement.

2. Records of all required monitoring data and support information, including calibrations, maintenance records, and original strip chart recordings, and copies of all reports required by the Division for Air Quality, shall be retained by the permittee for a period of five years and shall be made available for inspection upon request by any duly authorized representative of the Division for Air Quality [Sections 1b-IV-2 and 1a-8 of the *Cabinet Provisions and Procedures for Issuing Title V Permits* incorporated by reference in 401 KAR 52:020, Section 26].

3. In accordance with the requirements of 401 KAR 52:020 Section 3(1)h the permittee shall allow authorized representatives of the Cabinet to perform the following during reasonable times:
   a. Enter upon the premises to inspect any facility, equipment (including air pollution control equipment), practice, or operation;
   b. To access and copy any records required by the permit:
   c. Sample or monitor, at reasonable times, substances or parameters to assure compliance with the permit or any applicable requirements.

   Reasonable times are defined as during all hours of operation, during normal office hours; or during an emergency.

4. No person shall obstruct, hamper, or interfere with any Cabinet employee or authorized representative while in the process of carrying out official duties. Refusal of entry or access may constitute grounds for permit revocation and assessment of civil penalties.

5. Summary reports of any monitoring required by this permit shall be submitted to the Regional Office listed on the front of this permit at least every six (6) months during the life of this permit, unless otherwise stated in this permit. For emission units that were still under construction or which had not commenced operation at the end of the 6-month period covered by the report and are subject to monitoring requirements in this permit, the report shall indicate that no monitoring was performed during the previous six months because the emission unit was not in operation [Sections 1b-V-1 of the *Cabinet Provisions and Procedures for Issuing Title V Permits* incorporated by reference in 401 KAR 52:020, Section 26].

SECTION F - MONITORING, RECORD KEEPING, AND REPORTING REQUIREMENTS (CONTINUED)

6. The semi-annual reports are due by January 30th and July 30th of each year. All reports shall be certified by a responsible official pursuant to 401 KAR 52:020 Section 23. If continuous emission and opacity monitors are required by regulation or this permit, data shall be reported in accordance with the requirements of 401 KAR 59:005, General Provisions, Section 3(3). All deviations from permit requirements shall be clearly identified in the reports.

7. In accordance with the provisions of 401 KAR 50:055, Section 1 the owner or operator shall notify the Regional Office listed on the front of this permit concerning startups, shutdowns, or malfunctions as follows:
   a. When emissions during any planned shutdowns and ensuing startups will exceed the standards, notification shall be made no later than three (3) days before the planned shutdown, or immediately following the decision to shut down, if the shutdown is due to events which could not have been foreseen three (3) days before the shutdown.
   b. When emissions due to malfunctions, unplanned shutdowns and ensuing startups are or may be in excess of the standards, notification shall be made as promptly as possible by telephone (or other electronic media) and shall be submitted in writing upon request.

8. The owner or operator shall report emission related exceedances from permit requirements including those attributed to upset conditions (other than emission exceedances covered by Section F.7 above) to the Regional Office listed on the front of this permit within 30 days. Deviations from permit requirements, including those previously reported under F.7 above, shall be included in the semiannual report required by F.6 [Sections 1b-V, 3 and 4 of the *Cabinet Provisions and Procedures for Issuing Title V Permits* incorporated by reference in 401 KAR 52:020, Section 26].

9. Pursuant to 401 KAR 52:020, Permits, Section 21, the permittee shall annually certify compliance with the terms and conditions contained in this permit, by completing and returning a Compliance Certification Form (DEP 7007CC) (or an alternative approved by the regional office) to the Regional Office listed on the front of this permit and the U.S. EPA in accordance with the following requirements:
   a. Identification of the term or condition;
   b. Compliance status of each term or condition of the permit;
   c. Whether compliance was continuous or intermittent;
   d. The method used for determining the compliance status for the source, currently and over the reporting period.
   e. For an emissions unit that was still under construction or which has not commenced operation at the end of the 12-month period covered by the annual compliance certification, the permittee shall indicate that the unit is under construction and that compliance with any applicable requirements will be demonstrated within the timeframes specified in the permit.
   f. The certification shall be postmarked by January 30th of each year. Annual compliance certifications shall be mailed to the following addresses:

SECTION F - MONITORING, RECORD KEEPING, AND REPORTING REQUIREMENTS (CONTINUED)

Division for Air Quality
Paducah Regional Office
130 Eagle Nest Drive
Paducah, KY 42003

Division for Air Quality
Central Files
803 Schenkel Lane
Frankfort, KY 40601

U.S. EPA Region IV
Air Enforcement Branch
Atlanta Federal Center
61 Forsyth St.
Atlanta, GA 30303-8960

10. In accordance with 401 KAR 52:020, Section 22, the permittee shall provide the Division with all information necessary to determine its subject emissions within thirty (30) days of the date the KYEIS emission survey is mailed to the permittee.

SECTION G - GENERAL PROVISIONS

1. General Compliance Requirements

   a. The permittee shall comply with all conditions of this permit. Noncompliance shall be a violation of 401 KAR 52:020 Section 3(1)(b) and a violation of Federal Statute 42 USC 7401 through 7671q (the Clean Air Act). Noncompliance with this permit is grounds for enforcement action including but not limited to termination, revocation and reissuance, revision or denial of a permit [Section 1a-3 of the *Cabinet Provisions and Procedures for Issuing Title V Permits* incorporated by reference in 401 KAR 52:020 Section 26].

   b. The filing of a request by the permittee for any permit revision, revocation, reissuance, or termination, or of a notification of a planned change or anticipated noncompliance, shall not stay any permit condition [Section 1a-6 of the *Cabinet Provisions and Procedures for Issuing Title V Permits* incorporated by reference in 401 KAR 52:020, Section 26].

   c. This permit may be revised, revoked, reopened and reissued, or terminated for cause in accordance with 401 KAR 52:020, Section 19. The permit will be reopened for cause and revised accordingly under the following circumstances:
      (1) If additional applicable requirements become applicable to the source and the remaining permit term is three (3) years or longer. In this case, the reopening shall be completed no later than eighteen (18) months after promulgation of the applicable requirement. A reopening shall not be required if compliance with the applicable requirement is not required until after the date on which the permit is due to expire, unless this permit or any of its terms and conditions have been extended pursuant to 401 KAR 52:020, Section 12;
      (2) The Cabinet or the U. S. EPA determines that the permit must be revised or revoked to assure compliance with the applicable requirements;
      (3) The Cabinet or the U. S. EPA determines that the permit contains a material mistake or that inaccurate statements were made in establishing the emissions standards or other terms or conditions of the permit;
      (4) New requirements become applicable to a source subject to the Acid Rain Program.

      Proceedings to reopen and reissue a permit shall follow the same procedures as apply to initial permit issuance and shall affect only those parts of the permit for which cause to reopen exists. Reopenings shall be made as expeditiously as practicable. Reopenings shall not be initiated before a notice of intent to reopen is provided to the source by the Division, at least thirty (30) days in advance of the date the permit is to be reopened, except that the Division may provide a shorter time period in the case of an emergency.

   d. The permittee shall furnish information upon request of the Cabinet to determine if cause exists for modifying, revoking and reissuing, or terminating the permit; or to determine compliance with the conditions of this permit [Sections 1a- 7 and 8 of the *Cabinet Provisions and Procedures for Issuing Title V Permits* incorporated by reference in 401 KAR 52:020, Section 26].

   e. Emission units described in this permit shall demonstrate compliance with applicable requirements if requested by the Division [401 KAR 52:020 Section 3(1)(c)].

SECTION G - GENERAL PROVISIONS (CONTINUED)

f. The permittee, upon becoming aware that any relevant facts were omitted or incorrect information was submitted in the permit application, shall promptly submit such supplementary facts or corrected information to the permitting authority [401 KAR 52:020, Section 7(1)].

g. Any condition or portion of this permit which becomes suspended or is ruled invalid as a result of any legal or other action shall not invalidate any other portion or condition of this permit [Section 1a-14 of the *Cabinet Provisions and Procedures for Issuing Title V Permits* incorporated by reference in 401 KAR 52:020, Section 26].

h. The permittee shall not use as a defense in an enforcement action the contention that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance [Section 1a-4 of the *Cabinet Provisions and Procedures for Issuing Title V Permits* incorporated by reference in 401 KAR 52:020, Section 26].

i. Except for requirements identified in this permit as state-origin requirements, all terms and conditions shall be enforceable by the United States Environmental Protection Agency and citizens. [Section 1a-15-b of the *Cabinet Provisions and Procedures for Issuing Title V Permits* incorporated by reference in 401 KAR 52:020, Section 26].

j. This permit shall be subject to suspension if the permittee fails to pay all emissions fees within 90 days after the date of notice as specified in 401 KAR 50:038, Section 3(6) [Section 1a-10 of the *Cabinet Provisions and Procedures for Issuing Title V Permits* incorporated by reference in 401 KAR 52:020, Section 26].

k. Nothing in this permit shall alter or affect the liability of the permittee for any violation of applicable requirements prior to or at the time of permit issuance [401 KAR 52:020, Section 11(3)(b)].

l. This permit does not convey property rights or exclusive privileges [Section 1a-9 of the *Cabinet Provisions and Procedures for Issuing Title V Permits* incorporated by reference in 401 KAR 52:020, Section 26].

m. Issuance of this permit does not relieve the permittee from the responsibility of obtaining any other permits, licenses, or approvals required by the Cabinet or any other federal, state, or local agency.

n. Nothing in this permit shall alter or affect the authority of U.S. EPA to obtain information pursuant to Federal Statute 42 USC 7414, Inspections, monitoring, and entry [401 KAR 52:020, Section 11(3)(d)].

o. Nothing in this permit shall alter or affect the authority of U.S. EPA to impose emergency orders pursuant to Federal Statute 42 USC 7603, Emergency orders [401 KAR 52:020, Section 11(3)(a)].

p. This permit consolidates the authority of any previously issued PSD, NSR, or Synthetic Minor source preconstruction permit terms and conditions for various emission units and incorporates

SECTION G - GENERAL PROVISIONS (CONTINUED)

all requirements of those existing permits into one single permit for this source.

q. Pursuant to 401 KAR 52:020, Section 11, a permit shield shall not protect the owner or operator from enforcement actions for violating an applicable requirement prior to or at the time of permit issuance. Compliance with the conditions of this permit shall be considered compliance with:
   (1) Applicable requirements that are included and specifically identified in the permit and
   (2) Non-applicable requirements expressly identified in this permit.

2. Permit Expiration and Reapplication Requirements

   a. This permit shall remain in effect for a fixed term of five (5) years following the original date of issue. Permit expiration shall terminate the source's right to operate unless a timely and complete renewal application has been submitted to the Division at least six months prior to the expiration date of the permit. Upon a timely and complete submittal, the authorization to operate within the terms and conditions of this permit, including any permit shield, shall remain in effect beyond the expiration date, until the renewal permit is issued or denied by the Division [401 KAR 52:020, Section 12].

   b. The authority to operate granted shall cease to apply if the source fails to submit additional information requested by the Division after the completeness determination has been made on any application, by whatever deadline the Division sets [401 KAR 52:020 Section 8(2)].

3. Permit Revisions

   a. A minor permit revision procedure may be used for permit revisions involving the use of economic incentive, marketable permit, emission trading, and other similar approaches, to the extent that these minor permit revision procedures are explicitly provided for in the SIP or in applicable requirements and meet the relevant requirements of 401 KAR 52:020, Section 14(2).

   b. This permit is not transferable by the permittee. Future owners and operators shall obtain a new permit from the Division for Air Quality. The new permit may be processed as an administrative amendment if no other change in this permit is necessary, and provided that a written agreement containing a specific date for transfer of permit responsibility coverage and liability between the current and new permittee has been submitted to the permitting authority within ten (10) days following the transfer.

4. Construction, Start-Up, and Initial Compliance Demonstration Requirements

   Pursuant to a duly submitted application the Kentucky Division for Air Quality hereby authorizes the construction of the equipment described herein, emission point 241 (Reactor 5 (6,000 gal) and Dryer 4), emission point 361 (Product receiver (9,000 gal)), and emission point WW1 in accordance with the terms and conditions of this permit.

   a. Construction of any process and/or air pollution control equipment authorized by this permit shall be conducted and completed only in compliance with the conditions of this permit.

SECTION G - GENERAL PROVISIONS (CONTINUED)

b. Within thirty (30) days following commencement of construction and within fifteen (15) days following start-up and attainment of the maximum production rate specified in the permit application, or within fifteen (15) days following the issuance date of this permit, whichever is later, the permittee shall furnish to the Regional Office listed on the front of this permit in writing, with a copy to the Division's Frankfort Central Office, notification of the following:
   (1) The date when construction commenced.
   (2) The date of start-up of the affected facilities listed in this permit.
   (3) The date when the maximum production rate specified in the permit application was achieved.

c. Pursuant to 401 KAR 52:020, Section 3(2), unless construction is commenced within eighteen (18) months after the permit is issued, or begins but is discontinued for a period of eighteen (18) months or is not completed within a reasonable timeframe then the construction and operating authority granted by this permit for those affected facilities for which construction was not completed shall immediately become invalid. Upon written request, the Cabinet may extend these time periods if the source shows good cause.

d. For those affected facilities for which construction is authorized by this permit, a source shall be allowed to construct with the proposed permit. Operational or final permit approval is not granted by this permit until compliance with the applicable standards specified herein has been demonstrated pursuant to 401 KAR 50:055. If compliance is not demonstrated within the prescribed timeframe provided in 401 KAR 50:055, the source shall operate thereafter only for the purpose of demonstrating compliance, unless otherwise authorized by Section I of this permit or order of the Cabinet.

e. This permit shall allow time for the initial start-up, operation, and compliance demonstration of the affected facilities listed herein. However, within sixty (60) days after achieving the maximum production rate at which the affected facilities will be operated but not later than 180 days after initial start-up of such facilities, the permittee shall conduct a performance demonstration on the affected facilities in accordance with 401 KAR 50:055, General compliance requirements. Testing must also be conducted in accordance with General Provisions G.5 of this permit.

f. Terms and conditions in this permit established pursuant to the construction authority of 401 KAR 51:017 or 401 KAR 51:052 shall not expire.

5. Testing Requirements

a. Pursuant to 401 KAR 50:045 Section 2, a source required to conduct a performance test shall submit a completed Compliance Test Protocol form, DEP form 6028, or a test protocol a source has developed for submission to other regulatory agencies, in a format approved by the cabinet, to the Division's Frankfort Central Office a minimum of sixty (60) days prior to the scheduled test date. Pursuant to 401 KAR 50:045, Section 7, the Division shall be notified of the actual test date at least Thirty (30) days prior to the test.

SECTION G - GENERAL PROVISIONS (CONTINUED)

b. Pursuant to 401 KAR 50:045 Section 5, in order to demonstrate that a source is capable of complying with a standard at all times, any required performance test shall be conducted under normal conditions that are representative of the source's operations and create the highest rate of emissions. If [When] the maximum production rate represents a source's highest emissions rate and a performance test is conducted at less than the maximum production rate, a source shall be limited to a production rate of no greater than 110 percent of the average production rate during the performance tests. If and when the facility is capable of operation at the rate specified in the application, the source may retest to demonstrate compliance at the new production rate. The Division for Air Quality may waive these requirements on a case-by-case basis if the source demonstrates to the Division's satisfaction that the source is in compliance with all applicable requirements.

c. Results of performance test(s) required by the permit shall be submitted to the Division by the source or its representative within forty-five days or sooner if required by an applicable standard, after the completion of the fieldwork.

6. Acid Rain Program Requirements

a. If an applicable requirement of Federal Statute 42 USC 7401 through 7671q (the Clean Air Act) is more stringent than an applicable requirement promulgated pursuant to Federal Statute 42 USC 7651 through 7651o (Title IV of the Act), both provisions shall apply, and both shall be state and federally enforceable.

b. The permittee shall comply with all applicable requirements and conditions of the Acid Rain Permit and the Phase II permit application (including the Phase II NOx compliance plan and averaging plan, if applicable) incorporated into the Title V permit issued for this source. The source shall also comply with all requirements of any revised or future acid rain permit(s) issued to this source.

7. Emergency Provisions

a. Pursuant to 401 KAR 52:020 Section 24(1), an emergency shall constitute an affirmative defense to an action brought for the noncompliance with the technology-based emission limitations if the permittee demonstrates through properly signed contemporaneous operating logs or relevant evidence that:
   (1) An emergency occurred and the permittee can identify the cause of the emergency;
   (2) The permitted facility was at the time being properly operated;
   (3) During an emergency, the permittee took all reasonable steps to minimize levels of emissions that exceeded the emissions standards or other requirements in the permit; and
   (4) Pursuant to 401 KAR 52:020, 401 KAR 50:055, and KRS 224.01-400, the permittee notified the Division as promptly as possible and submitted written notice of the emergency to the Division when emission limitations were exceeded due to an emergency. The notice shall include a description of the emergency, steps taken to mitigate emissions, and corrective actions taken.

SECTION G - GENERAL PROVISIONS (CONTINUED)

(5) This requirement does not relieve the source of other local, state or federal notification requirements.

b. Emergency conditions listed in General Condition G.7.a above are in addition to any emergency or upset provision(s) contained in an applicable requirement [401 KAR 52:020, Section 24(3)].

c. In an enforcement proceeding, the permittee seeking to establish the occurrence of an emergency shall have the burden of proof [401 KAR 52:020, Section 24(2)].

8. Ozone Depleting Substances

a. The permittee shall comply with the standards for recycling and emissions reduction pursuant to 40 CFR 82, Subpart F, except as provided for Motor Vehicle Air Conditioners (MVACs) in Subpart B:
   (1) Persons opening appliances for maintenance, service, repair, or disposal shall comply with the required practices contained in 40 CFR 82.156.
   (2) Equipment used during the maintenance, service, repair, or disposal of appliances shall comply with the standards for recycling and recovery equipment contained in 40 CFR 82.158.
   (3) Persons performing maintenance, service, repair, or disposal of appliances shall be certified by an approved technician certification program pursuant to 40 CFR 82.161.
   (4) Persons disposing of small appliances, MVACs, and MVAC-like appliances (as defined at 40 CFR 82.152) shall comply with the recordkeeping requirements pursuant to 40 CFR 82.166
   (5) Persons owning commercial or industrial process refrigeration equipment shall comply with the leak repair requirements pursuant to 40 CFR 82.156.
   (6) Owners/operators of appliances normally containing 50 or more pounds of refrigerant shall keep records of refrigerant purchased and added to such appliances pursuant to 40 CFR 82.166.

b. If the permittee performs service on motor (fleet) vehicle air conditioners containing ozone-depleting substances, the source shall comply with all applicable requirements as specified in 40 CFR 82, Subpart B, *Servicing of Motor Vehicle Air Conditioners*.

9. Risk Management Provisions

a. The permittee shall comply with all applicable requirements of 401 KAR Chapter 68, Chemical Accident Prevention, which incorporates by reference 40 CFR Part 68, Risk Management Plan provisions. If required, the permittee shall comply with the Risk Management Program and submit a Risk Management Plan to:

   RMP Reporting Center
   P.O. Box 1515
   Lanham-Seabrook, MD 20703-1515.

b. If requested, submit additional relevant information to the Division or the U.S. EPA.

SECTION H - ALTERNATE OPERATING SCENARIOS

None

SECTION I - COMPLIANCE SCHEDULE

None